Inventory of Power Plants in the United States 1984

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This cover photo shows the 1.3-million-kilowatt, coal-fired turbine-generator at the Mountaineer Plan, New Haven, West Virginia, equal in capacity to the largest generating units in the United States.

This report was prepared by the Energy Information Administration, the independent statistical and analytical agency within the Department of Energy. The information contained herein should not be construed as advocating or necessarily reflecting any policy position of the Department of Energy or any other organization.

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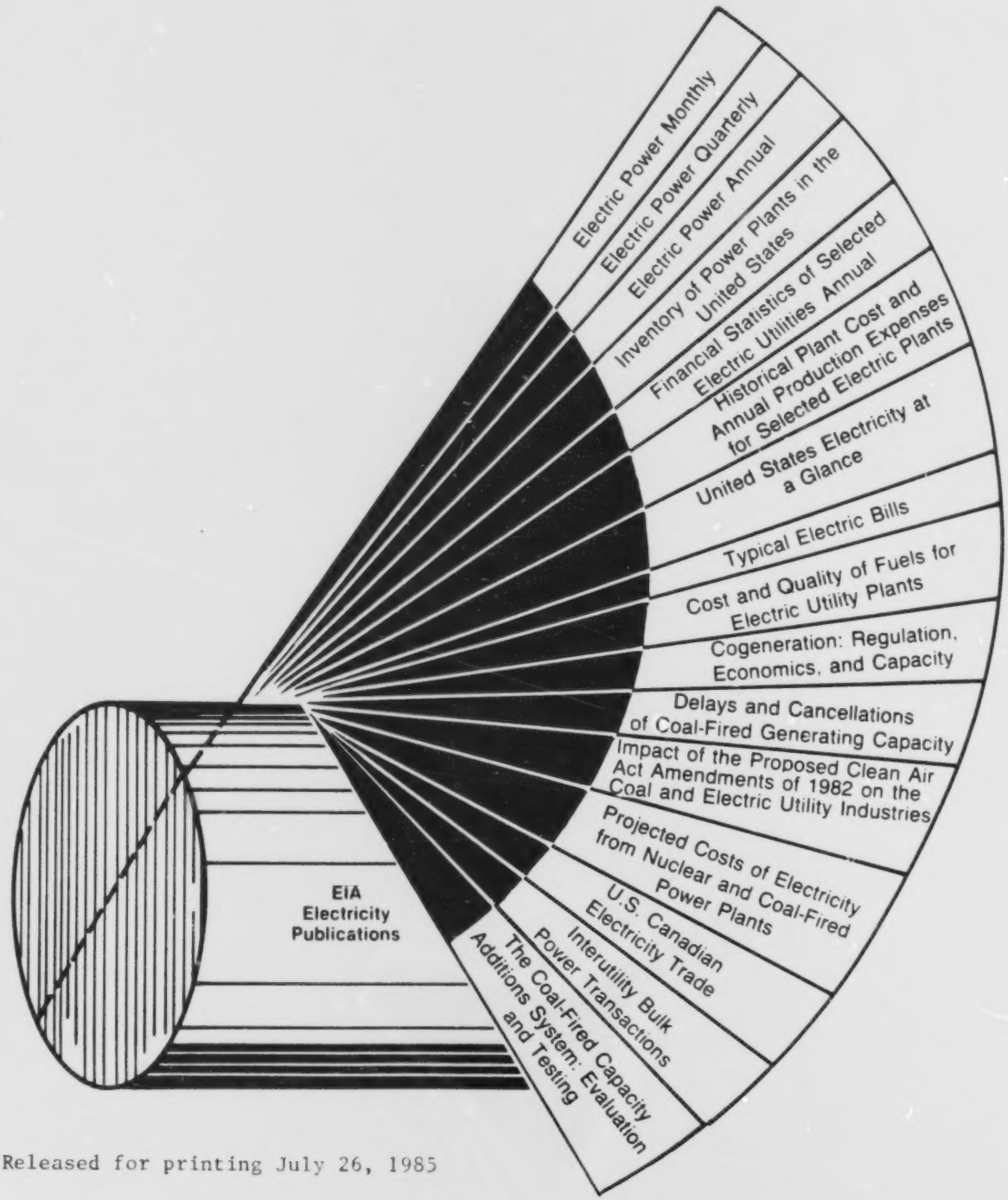
EIA Electricity Publications
Electric Power Monthly
Electric Power Quarterly
Electric Power Annual
Inventory of Power Plants in the United States
Financial Statistics of Selected Electric Utilities Annual
Historical Plant Cost and Annual Production Expenses for Selected Electric Plants
United States Electricity at a Glance
Typical Electric Bills
Cost and Quality of Fuels for Electric Utility Plants
Cogeneration: Regulation, Economics, and Capacity
Delays and Cancellations of Coal-Fired Generating Capacity
Impact of the Proposed Clean Air Act Amendments of 1982 on the Coal and Electric Utility Industries
Projected Costs of Electricity from Nuclear and Coal-Fired Power Plants
U.S. Canadian Electricity Trade
Interutility Bulk Power Transactions
The Coal-Fired Capacity Additions System: Evaluation and Testing

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Highlights

The installed capacity of electric generating units in commercial operation by the Nation's electric utilites, as of year-end 1984, totaled 672,055 megawatts (MW).[1] This number includes those units in an inactive reserve status (not normally used, but available for service) and those in deactivated shutdown status (out of service for 365 days or longer). The Nation's electric utilities are planning a construction program that includes 418 new electric generating units, totaling 103,144 MW, that will begin initial commercial operation by 1994.

Of the 672,055 MW of existing capacity, 299,096 MW are in 1,300 coal-fired units; 117,914 MW are in 3,826 petroleum-fired units; 97,295 MW are in 1,789 gas-fired units; 81,802 MW are in 3,394 hydroelectric units; 71,861 MW are in 85 nuclear-powered units; and 4,086 MW are in 105 electric generating units that use other primary energy sources to produce electricity.

The installed capacity of the coal-fired generating units accounted for the largest share of U.S. electric utility installed generating capacity among the various primary energy sources, 44.5 percent; petroleum-fired units accounted for 17.5 percent; gas-fired units, 14.5 percent; hydroelectric units, 12.2 percent; nuclear-powered units, 10.7 percent; and other electric generating units, 0.6 percent.

During 1984, electric utilities added 18,698 MW in 109 units to their installed generating capacity. Coal-fired and nuclear-powered capacity accounted for 88.5 percent of the total capacity that came on line in 1984. The remaining 11.5 percent of capacity that commenced commercial operation in 1984 included: petroleum, 0.2 percent; gas, 1.7 percent; water, 8.8 percent; and other (geothermal, wind, solar, refuse, wood, and waste heat), 0.8 percent.

During 1984, electric utilities retired from commercial service 158 generating units with a total capacity of 2,177 MW. Of these 158 retired units, 42.4 percent were petroleum-fired; 37.3 percent were gas-fired; and 12.7 percent were coal-fired; 3.8 percent were in hydroelectric units; and 3.8 were in other units.

Of the 103,144 MW of planned capacity, 43 percent is in 80 coal-fired units; 0.3 percent is in 35 petroleum-fired units 2.2 percent is in 36 gas-fired units; 7.5 percent is in 198 hydroelectric units; 45.8 percent is in 40 nuclear units; and 1.3 percent is in 29 units powered by other energy sources. All of the planned petroleum-fired units are gas-turbine and internal combustion (diesel) units. Two of these units as listed in Table 2 are gas-turbine units to be operated in combined cycle.

Over 11,000 MW of capacity were canceled during 1984 and over 9,000 MW of capacity were indefinitely postponed or delayed beyond 1994.

Electric utilities have scheduled 16,525 MW in 458 generating units for retirement over the next decade. Over 80 percent of this projected capacity retirement is in either petroleum-fired or gas-fired units.

[1] Throughout this publication, "capacity" or "nameplate capacity" is the manufacturer's generator nameplate rating, unless specifically noted otherwise.

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Introduction

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Introduction

The **Inventory of Power Plants in the United States** is published annually by the Electric Power Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA); U.S. Department of Energy (DOE).

Inventory of Power Plants in the United States presents information about electric generating units operated by or planned to be operated by electric utilities in the United States (the 50 States and the District of Columbia).

The summarized data contained in this report are useful to a wide audience including Congress, Federal and State agencies, the electric utility industry, and the general public. The data presented in this report were assembled and published by the EIA, U.S. DOE, to fulfill its data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (P.L. 93-275) as amended.

The **Inventory of Power Plants in the United States 1984** is a condensed version of the former publication, **Inventory of Power Plants in the United States**, which contained detailed data about all the power plants in the United States.

Inventory of Power Plants in the United States 1981 is the most recent comprehensive issue. Commencing with the 1985 reporting year, the comprehensive version will be published every fifth year and the condensed version will be published in intervening years.

In addition to summary statistics at the national, regional, division, and State levels, the comprehensive version contains detailed data about each existing electric generating unit (including units on standby or out of service for an extended period of time) operated by electric utilities in the United States, and about each electric generating unit planned for operation within 10 years of the reporting year by electric utilities. The condensed version contains detailed data only for each electric generating unit that began commercial operation during the reporting year, was retired from commercial operation during the reporting year, or was planned to begin commercial operation within 10 years of the reporting year. More information about the comprehensive version, condensed version, and the availability of computer printouts of these data can be obtained by writing or calling the National Energy Information Center, EI-22; Energy Information Administration; Forrestal Building; Room 1F-048; Washington, D.C. 20585; (202) 252-8800.

The data in this condensed version are organized as follows.

Summary

Electric Generating Units

Projected Units

Jointly Owned Units

The "Summary" section contains statistics for the calendar year that ended December 31, 1984 at the national, regional, division, and State levels for existing and planned electric generating units, by primary energy source. Similar statistics are included for electric generating units that were retired from commercial operation in 1984. "Electric Generating Units" contains detailed data about each electric generating unit that started commercial operation in 1984 or was retired from commercial operation during 1984. "Projected Units" contains detailed data about each electric generating unit scheduled to start commercial operation between 1985 and 1994. "Jointly Owned Units" contains ownership data for those jointly owned electric generating units planned to begin commercial operation between 1985 and 1994 and those jointly owned units that started commercial operation during 1984.

The detailed data about electric generating units include the name of the electric utility operating the unit, the location of the unit, its primary and alternate energy sources, and the installed generator nameplate rating. Comparable detailed data for electric generating units with an initial operation date earlier than 1984 may be obtained on request from the EIA. Data in these chapters are organized alphabetically by State and electric utility.

The generating units data form a dynamic data base that is continually updated.

The statistics presented in this publication are the result of data processed from Form EIA-860, "Annual Electric Generator Report." Form EIA-860 was implemented for the first time in 1985 to collect data on existing and proposed generators. The 2 previous years' updates were based on voluntary submissions from electric utilities. The responses to Form EIA-860, a mandatory survey, caused updates to the existing data system that can be summarized as follows: 1) Updates that reflect construction or modification within power plants or changes in power plant operations during the reporting year. These changes within power plants include the installation of new generators, the retirement of existing generators, the usage of a primary energy source different from that which has been the primary energy source in the past (for dual-fired units), and rewinding of stators or retrofitting of associated generator equipment. 2) Corrections to previously reported data that were incorrect. 3) Deletion of respondents from the frame of the EIA-860, whose operations do not meet

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the requirements for the frame. 4) Deletion or addition of capacity when electric utilities' sales and acquistions are made to and from companies outside the frame of Form EIA-860.

A summary of the capacity changes attributed to each of these specific categories of updates is not available. A tracking system which allows capacity changes to be categorized and presented in conjunction with annual summary data currently presented in this publication has been proposed for future editions. With the publishing of the comprehensive version of **Inventory of Power Plants in the United States** next year, detailed generator-level data will be presented for each existing and proposed electric generator. This will be the base from which future changes will be accounted for from one year to the next.

Sources of Data

Data published in the **Inventory of Power Plants in the United States 1984** were compiled primarily from Form EIA-860, "Annual Electric Generator Report," filed annually with the Department of Energy by electric utilities. These data were supplemented with monthly updates from data submitted on Form EIA-759, "Monthly Power Plant Report." For a description of the data submitted on these forms, see Sections 1.1 and 1.2 of the "Technical Notes."

Coverage of Sources

Form EIA-860 and Form EIA-759 data sources represent 100 percent coverage of electric utilities that operate power plants in the United States.

Adjustments to Collected Data

Data on generator nameplate capacity and summer and winter capability are published as reported on Form EIA-860, "Annual Electric Generator Report." Summer capability data have been substituted for the nameplate capacity of generators planned or under construction where generator nameplate capacity is not available. For generators in commercial service for which summer or winter capability data are not available, estimated data have been imputed. The following algorithm is used for imputting estimated summer capability data. The generator nameplate capacity and summer capability are aggregated for all generators for which summer capability are reported. The ratio(x) of summer capability to nameplate capacity is calculated. The summer capability is imputed for each generator for which the summer capability is unavailable, by multiplying the ratio(x) by the nameplate capacity for the generator. The same algorithm is used for imputting winter capability. No additional adjustments have been made to collected data. Procedures for obtaining a 100-percent response rate are described in Section 1 of the "Technical Notes."

Glossary

A glossary of terms used in this report has been included to assist nontechnical as well as technical users in understanding the statistical data in this publication. The use of these terms is described in Section 8 of the "Technical Notes."

Technical Notes

This section contains a detailed description of the data collection systems used in preparing this publication. The notes also explain data quality, critical differences in the data, rules for data rounding, and other relevant items. Copies of the data are available to the public. See Section 4 of the "Technical Notes" for further information.

Tables in the "Technical Notes" define table headings, codes, cross references of States, Federal Regions, NERC Regions, and Census Divisions. Maps show the geographic boundaries of the NERC, Federal, and Census Divisions.

References

This section contains a description of related publications. Reference numbers appear within the text in parentheses. References are located in Section 12 of the "Technical Notes."

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Summary

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Summary

There were 10,499 electric generating units in commercial operation by the Nation's electric utilities, as of year-end 1984. The number includes those units that were in an inactive reserve status and those that were in deactivated shutdown status. Coal (including lignite) was the primary energy source for the production of electricity by 1,300 of these units; petroleum was used in 3,826; gas was used in 1,789; water was used in 3,394; and nuclear fuel was used in 85. There were 105 electric generating units that used other primary energy sources. These 105 electric generating units include 20 geothermal units, 21 windmills, 1 solar unit (Sacramento Municipal Utility District's Solar 1), 39 combined-cycle units that used waste heat, 7 units fueled by refuse (4 steam units and 3 methane internal combustion units built above a solid-waste landfill), 11 steam units fueled by wood, 1 steam unit fueled by a coal-oil mixture (Florida Power Corporation's P. L. Bartow 1), 4 multifueled (two or more fuels burned simultaneously, but not as a mixture) steam units, and 1 unit that uses steam.

Coal (including lignite) was the primary energy source for the production of electricity by 1,300 of the 10,499 electric generating units in commercial operation.

The 3,826 petroleum-fired electric generating units include 550 steam units (including all combined-cycle units) with a total capacity of 81,951 megawatts (MW); 938 gas-turbine units with a total capacity of 32,462

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Summary

MW; 2,338 internal combustion units with a total capacity of 3,501 MW.

The 1,789 gas-fired electric generating units include 721 steam units with a total capacity of 80,918 MW; 409 gas-turbine units with a total capacity of 14,968 MW; 659 internal combustion units with a total capacity of 1,410 MW.

Existing coal-fired capacity accounted for 44.5 percent, or 299,096 MW of the Nation's installed electric generating capacity, as of year-end 1984; nuclear, 10.7 percent, or 71,861 MW; hydroelectric, 12.2 percent, or 81,802 MW; gas, 14.5 percent, or 97,295 MW; petroleum, 17.5 percent, or 117,914 MW; and other energy sources, 0.6 percent, or 4,086 MW. These statistics reflect the significant shift from petroleum-fired capacity to gas-fired capacity that occurred during 1984.

This report shows that, as of year-end 1984, 418 electric generating units with a total capacity of 103,144 MW were planned by electric utilities for initial commercial operation between 1985 and 1994. This total includes 80 coal-fired units with a total capacity of 44,322 MW; 35 petroleum-fired units with a total capacity of 346 MW; 36 gas-fired units with a total capacity of 2,274 MW; 198 hydroelectric generating units with a total capacity of 7,697 MW; 40 nuclear units with a total capacity of 47,192 MW; 14 geothermal units with a total capacity of 1,153 MW; 4 solar units with a total capacity of 19 MW; 2 wind-powered units with a total capacity less than one megawatt (340 kilowatts); 7 refuse-fueled units with a total capacity of 122 MW; 2 wood-fueled units with a total capacity of 20 MW.

Thus, the mix of capacity scheduled to start commercial operation between 1985 and 1994 is as follows: coal, 43.0 percent; nuclear, 45.8 percent; petroleum, 0.3 percent; water, 7.5 percent; gas, 2.2 percent; and other sources, 1.3 percent.

The detailed generating-unit-level data from which these summary statistics were developed may be obtained by using this publication in conjunction with the 3 previous years' publications or by requesting the data as described in Section 4 of the "Technical Notes." Summary data on utility existing capacity and planned capacity additions are contained in Tables 1 through 8 of this chapter.

In addition to constructing new units, electric utilities have scheduled modifications to existing units in order to improve availability, efficiency, and capability.

Capability is the characteristic of generators that is most often used by electric utilities when determining the adequacy of their resources. The discussion that follows explains how "capability" relates to "capacity (generator nameplate)," which is primarily the basis of summary statistics presented in this chapter and the remaining chapters of this report. Table 3 presents data on electric generating capacity and electric generating capability for existing steam-electric units and planned steam-electric unit additions.

Generator nameplate capacity is determined by the generator manufacturer under specified test conditions normally conducted at the factory. The manufacturer stamps the achieved test capacity on the metal nameplate attached to the generator. Generator capability is determined by the utility operating the generator, and is based on historical performance of the generator and associated equipment. Generator nameplate capacity and generator capability generally differ from each other because the test conditions used to establish the nameplate rating differ from those normally encountered in daily power plant operations, under which capability is established. Such differences result because of different steam working pressures and temperatures; capacity limitations of associated equipment such as boilers, cooling systems, turbines, and environmental control equipment; different hydrogen pressures used to cool the generator; and reliability considerations not considered when determining nameplate capacity.

Nameplate capacity reflects the capability of the generator to generate electricity without regard to electrical loads from associated equipment such as boilers, particulate collectors, flue gas desulfurization units and plant lighting. Nameplate capacity is therefore the gross capacity of the equipment. Net capacity or net capability refers to the ability of the generator to generate electric power, taking into consideration the electrical requirements of associated plant equipment. For example, the electricity to run flue gas desulfurization equipment comes from electricity generated at the plant. Net, therefore, refers to the electricity available to be sent off-site (for consumption) after plant electrical loads have been satisfied.

Summer and winter net capability (the capacity of the generator that is generally achievable during the summer and winter months, respectively, after plant electrical requirements have been satisfied) is determined by the utility operating the generator on the basis of historical performance of the generator and associated equipment. The summer and winter figures are usually not the same because of the differences in ambient temperatures during each season. Power plant cooling capacity, an essential part of electric power generation, decreases as air and water temperatures increase. Summer capability is therefore generally lower than winter capability because high summer temperatures can strain power plant cooling capacity to the extent that maximum electric power generation cannot be achieved.

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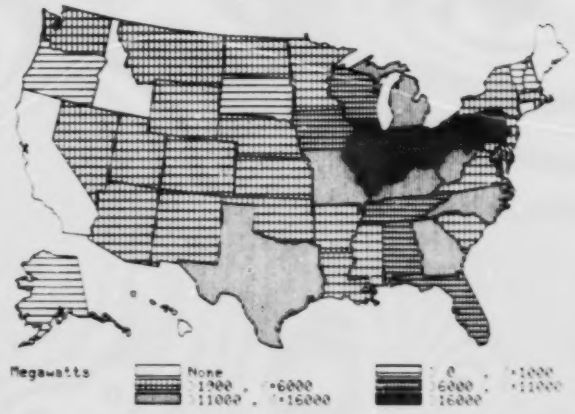
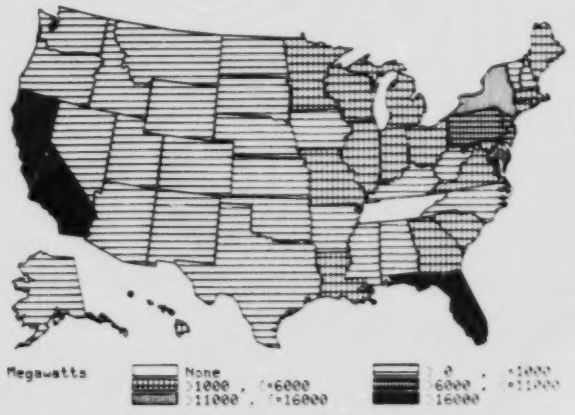
Summary

Figure 1. Coal-Fired Nameplate Capacity in 1984



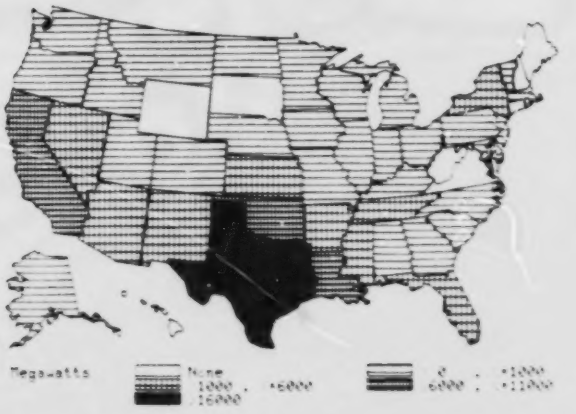
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 2. Petroleum-Fired Nameplate Capacity in 1984



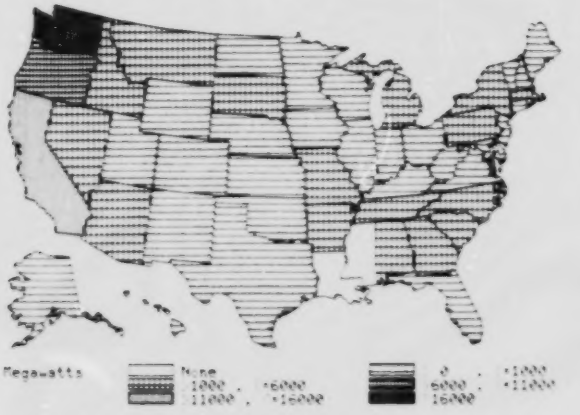
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 3. Gas-Fired Nameplate Capacity in 1984



Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 4. Hydroelectric Nameplate Capacity in 1984



Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

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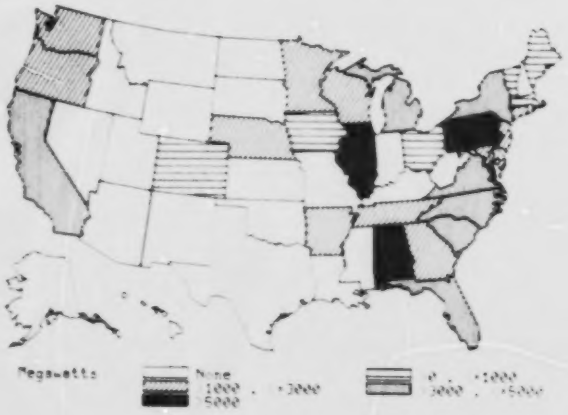
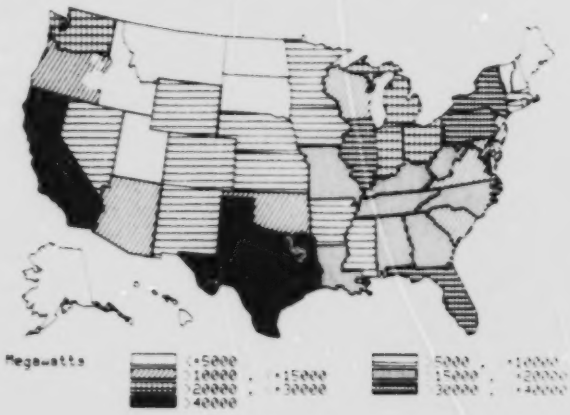
Summary

Figure 5. Nuclear Nameplate Capacity in 1984



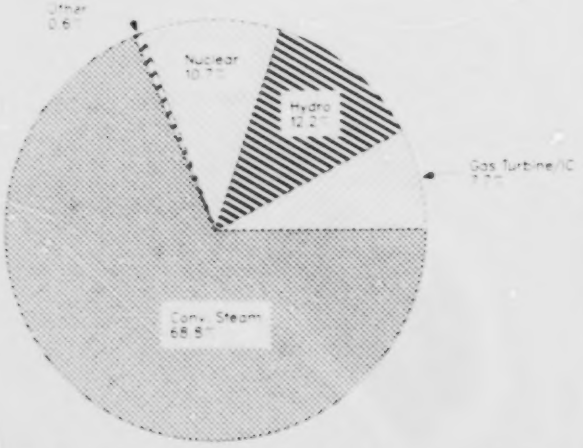
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 6. United States Nameplate Capacity in 1984



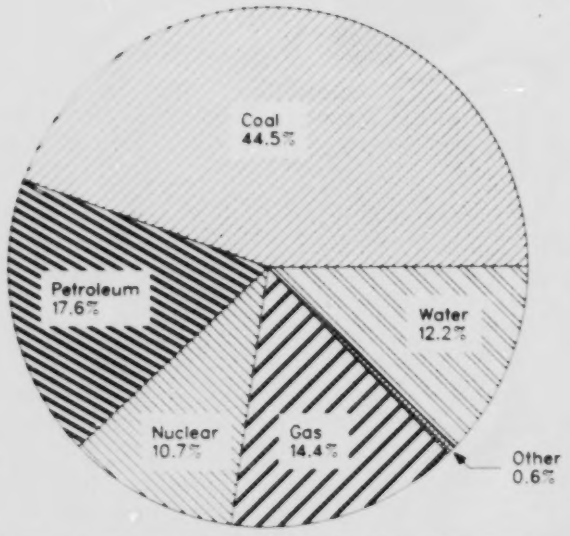
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 7. Percent Nameplate Capacity by Prime Mover in 1984



Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 8. Percent Nameplate Capacity by Energy Source in 1984



Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

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Summary

Table 1. United States Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984

Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**672,055**	**10,499**	**18,698**	**109**	**2,177**	**158**	**103,144**	**418**
Coal	299,096	1,300	10,882	18	543	20	44,322	80
Petroleum	117,914	3,826	33	27	703	67	346	35
Gas	97,295	1,789	325	3	806	59	2,274	36
Water	81,802	3,394	1,640	47	4	6	7,697	198
Nuclear	71,861	85	5,671	5	–	–	47,192	40
Other	4,086	105	146	9	120	6	1,314	29
Geothermal	1,358	20	27	2	–	–	1,153	14
Wind	11	21	*	3	–	–	*	2
Sun	1	1	1	1	–	–	19	4
Refuse	150	7	59	1	–	–	122	7
Wood	186	11	50	1	–	–	20	2
Coal Oil Mix	128	1	–	–	–	–	–	–
Waste Heat	2,109	39	10	1	42	2	–	–
Multifuel	105	4	–	–	–	–	–	–
Steam	37	1	–	–	78	4	–	–

[1] Planned additions are for 1985-1994.
* Capacity less than 0.5 megawatts.
Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Table 2. United States Summary of Fossil-Fueled Nameplate Capacity by Prime Mover, as of December 1984

Prime Mover Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**514,306**	**6,915**	**11,240**	**48**	**2,052**	**146**	**46,942**	**151**
Steam[2]	**461,965**	**2,571**	**10,882**	**18**	**1,811**	**66**	**44,638**	**83**
Coal	299,096	1,300	10,882	18	543	20	44,322	80
Petroleum	81,951	550	–	–	516	11	216	2
Gas	80,918	721	–	–	752	35	100	1
Gas Turbine/ Internal Combustion	**52,340**	**4,344**	**358**	**30**	**241**	**80**	**2,304**	**68**
Petroleum	35,963	3,276	33	27	187	56	130	33
Gas	16,378	1,068	325	3	54	24	2,174	35

[1] Planned additions are for 1985-1994.
[2] Includes all combined-cycle units.
Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Table 3. United States Summary of Steam-Electric Installed Generating Capacity/Capability, as of December 1984

Primary Energy Source	Existing Capacity (megawatts)			Added Capacity (megawatts)			Planned Additions[1] (megawatts)		
	Generator Nameplate	Summer Capability	Winter Capability	Generator Nameplate	Summer Capability	Winter Capability	Generator Nameplate	Summer Capability	Winter Capability
Coal	299,096	284,141	287,132	10,882	10,274	10,281	44,322	42,106	42,549
Petroleum[2]	81,951	77,853	78,673	–	–	–	216	216	216
Gas[2]	80,918	76,872	77,681	–	–	–	100	100	100
Nuclear	71,861	66,290	66,903	5,671	5,308	5,338	47,192	44,805	44,912

[1] Planned additions are for 1985-1994.
[2] Includes all combined-cycle units.
Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Summary

Table 4. United States Summary of Planned Nameplate Capacity Additions by Energy Source, as of December 1984

Year	U.S. Total		Coal		Petroleum		Gas		Water		Nuclear		Other	
	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.
1985-1994	**103,144**	**418**	**44,322**	**80**	**346**	**35**	**2,274**	**36**	**7,697**	**198**	**47,192**	**40**	**1,314**	**29**
1985	**28,746**	**109**	6,548	13	55	15	96	11	3,210	47	18,532	16	306	7
1986	**18,077**	**53**	6,009	12	1	1	136	5	321	23	11,609	10	2	2
1987	**12,898**	**54**	2,905	7	26	6	159	3	153	26	9,573	8	81	4
1988	**6,174**	**51**	3,765	6	1	3	292	3	563	31	1,215	1	338	7
1989	**5,977**	**38**	1,874	3	17	4	77	1	1,427	28	2,582	2	-	-
1990	**4,682**	**35**	1,560	3	108	2	909	5	797	19	1,098	1	210	5
1991	**11,794**	**29**	7,917	12	108	2	90	1	902	10	2,582	2	195	2
1992	**4,245**	**19**	3,636	6	*	1	350	5	77	5	-	-	182	2
1993	**6,487**	**16**	6,362	12	30	1	90	1	5	2	-	-	-	-
1994	**4,064**	**14**	3,746	6	-	-	75	1	243	7	-	-	-	-

* Capacity less than 0.5 megawatts.

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Table 5. North American Electric Reliability Council Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984

NERC Region Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**672,055.2**	**10,499**	**18,697.8**	**109**	**2,176.9**	**158**	**103,144.3**	**418**
Coal	299,096.3	1,300	10,881.9	18	543.5	20	44,322.2	80
Petroleum	117,914.1	3,826	32.6	27	702.6	67	345.6	35
Gas	97,295.4	1,789	325.2	3	806.4	59	2,274.3	36
Water	81,802.4	3,394	1,640.3	47	4.5	6	7,696.9	198
Nuclear	71,861.1	85	5,671.5	5	-	-	47,191.7	40
Other	4,085.9	105	146.3	9	119.9	6	1,313.6	29
ECAR	**103,895.1**	**1,148**	**2,638.0**	**6**	**331.9**	**14**	**10,746.1**	**23**
Coal	86,325.1	392	2,637.2	4	101.2	6	7,281.0	12
Petroleum	7,292.1	335	-	-	129.7	3	-	-
Gas	1,485.9	112	-	-	101.0	5	186.0	3
Water	3,493.1	298	.8	2	-	-	50.7	5
Nuclear	5,057.4	6	-	-	-	-	3,228.4	3
Other	241.5	5	-	-	-	-	-	-
ERCOT	**46,744.1**	**367**	**-**	**-**	**60.9**	**14**	**17,143.7**	**35**
Coal	12,263.2	20	-	-	-	-	11,092.6	17
Petroleum	40.6	30	-	-	8.7	7	-	-
Gas	33,865.7	282	-	-	52.2	7	1,060.0	5
Water	348.4	33	-	-	-	-	41.1	8
Nuclear	-	-	-	-	-	-	4,930.0	4
Other	226.2	2	-	-	-	-	20.0	1
MAAC	**52,995.3**	**489**	**685.1**	**1**	**511.8**	**11**	**5,391.1**	**10**
Coal	19,647.5	72	685.1	1	-	-	685.0	1
Petroleum	19,635.7	315	-	-	392.5	6	-	-
Gas	966.1	32	-	-	-	-	-	-
Water	2,603.5	58	-	-	-	-	187.5	5
Nuclear	10,006.7	10	-	-	-	-	4,518.6	4
Other	135.8	2	-	-	119.3	5	-	-
MAIN	**49,256.9**	**821**	**1,172.8**	**5**	**17.1**	**8**	**8,247.0**	**30**
Coal	30,730.0	157	-	-	-	-	1,032.6	5
Petroleum	7,213.7	354	-	-	-	-	1.8	1
Gas	665.8	99	-	-	17.1	8	105.7	9
Water	1,006.2	197	2.4	3	-	-	10.4	6
Nuclear	9,641.1	12	1,170.3	1	-	-	7,076.5	6
Other	.1	2	.1	1	-	-	20.0	3

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Summary

Table 5. North American Electric Reliability Council Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

NERC Region Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
MAPP(U.S.)	**33,787.9**	**1,439**	**440.6**	**3**	**74.8**	**29**	**1,526.5**	**9**
Coal	21,851.3	182	438.0	1	37.0	8	1,394.5	4
Petroleum	3,730.0	764	-	-	14.5	17	-	-
Gas	1,653.6	235	-	-	23.3	4	39.3	1
Water	2,667.1	239	2.6	2	-	-	92.7	4
Nuclear	3,740.1	7	-	-	-	-	-	-
Other	145.8	12	-	-	-	-	-	-
NPCC(U.S.)	**53,621.1**	**1,283**	**773.0**	**9**	**77.6**	**12**	**6,286.2**	**55**
Coal	5,585.3	43	655.1	1	-	-	-	-
Petroleum	26,750.4	462	-	-	73.8	10	1.3	3
Gas	4,716.4	87	-	-	3.0	1	-	-
Water	7,754.4	675	9.2	6	.8	1	1,781.1	45
Nuclear	8,530.0	12	-	-	-	-	4,418.6	4
Other	284.6	4	108.7	2	-	-	85.2	3
SERC	**141,866.2**	**1,418**	**5,554.5**	**7**	**158.9**	**9**	**24,233.6**	**61**
Coal	69,985.0	240	3,380.3	5	-	-	8,901.6	14
Petroleum	25,911.2	445	-	-	57.6	5	246.0	3
Gas	6,288.0	148	-	-	101.3	4	-	-
Water	13,623.5	546	-	-	-	-	4,091.8	35
Nuclear	25,701.8	27	2,174.2	2	-	-	10,994.2	9
Other	356.7	12	-	-	-	-	-	-
SPP	**68,624.4**	**1,154**	**1,436.4**	**8**	**891.8**	**39**	**12,858.2**	**37**
Coal	26,192.0	85	1,372.4	2	393.3	4	6,477.7	11
Petroleum	5,269.4	415	6.0	2	15.4	8	23.1	10
Gas	32,183.5	541	-	-	482.5	26	518.0	11
Water	2,721.9	104	58.0	2	-	-	-	-
Nuclear	1,845.0	2	-	-	-	-	5,839.4	5
Other	412.6	7	0	2	6	1	-	-
WSCC(U.S.)	**118,153.0**	**1,924**	**5,840.7**	**39**	**40.0**	**12**	**16,495.8**	**137**
Coal	26,463.4	104	1,713.8	4	12.0	2	7,457.2	16
Petroleum	20,064.6	329	-	-	2.1	4	1.4	1
Gas	14,744.2	231	247.2	2	25.0	3	249.0	5
Water	47,376.1	1,201	1,518.2	28	0.9	3	1,413.8	88
Nuclear	7,339.0	9	2,327.0	2	-	-	6,186.0	5
Other	2,165.7	50	34.5	3	-	-	1,188.4	22
ASCC	**1,621.9**	**376**	**146.2**	**27**	**4.2**	**6**	**196.7**	**18**
Coal	53.5	5	-	-	-	-	-	-
Petroleum	533.6	305	19.1	22	.4	3	52.6	14
Gas	726.2	22	78.0	1	1.0	1	116.3	2
Water	204.7	39	49.1	4	2.8	2	27.8	2
Nuclear	-	-	-	-	-	-	-	-
Other	103.9	5	-	-	-	-	-	-
HICC	**1,469.3**	**80**	**10.5**	**4**	**7.9**	**4**	**19.4**	**3**
Coal	-	-	-	-	-	-	-	-
Petroleum	1,472.8	72	7.5	3	7.9	4	19.4	3
Gas	-	-	-	-	-	-	-	-
Water	3.5	4	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	13.0	4	3.0	1	-	-	-	-

[1] Planned additions are for 1985-1994.

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Summary

Table 6. Federal Region Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984

Federal Region Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**672,055.2**	**10,499**	**18,697.8**	**109**	**2,176.9**	**158**	**103,144.3**	**415**
Coal	299,096.3	1,300	10,881.9	18	543.5	20	44,322.2	80
Petroleum	117,914.1	3,826	32.6	27	702.6	67	345.6	35
Gas	97,295.4	1,789	325.2	3	806.4	59	2,274.3	36
Water	81,802.4	3,394	1,640.3	47	4.5	6	7,696.9	198
Nuclear	71,861.1	85	5,671.5	5	-	-	47,191.7	40
Other	4,085.9	105	146.3	9	119.9	6	1,313.6	29
Federal Region 1	**21,079.2**	**639**	**55.2**	**3**	**41.9**	**5**	**2,514.1**	**14**
Coal	2,283.2	13	-	-	-	-	-	-
Petroleum	11,184.7	255	-	-	41.1	4	-	-
Gas	181.5	11	-	-	-	-	-	-
Water	2,741.8	350	5.2	2	.8	1	111.0	12
Nuclear	4,462.1	7	-	-	-	-	2,403.1	2
Other	225.9	3	50.0	1	-	-	-	-
Federal Region 2	**45,914.2**	**761**	**717.8**	**6**	**444.5**	**11**	**4,942.1**	**42**
Coal	5,059.5	39	655.1	1	-	-	-	-
Petroleum	23,274.6	291	-	-	399.7	9	1.3	3
Gas	5,026.7	89	-	-	3.0	1	-	-
Water	5,401.8	332	4.0	4	-	-	1,670.1	33
Nuclear	6,957.9	8	-	-	-	-	3,185.5	3
Other	193.7	2	58.7	1	41.8	1	85.2	3
Federal Region 3	**74,335.0**	**597**	**685.1**	**1**	**148.5**	**7**	**7,544.5**	**17**
Coal	43,238.4	136	685.1	1	-	-	985.0	2
Petroleum	15,512.9	287	-	-	71.0	3	-	-
Gas	474.3	19	-	-	-	-	-	-
Water	3,270.1	141	-	-	-	-	2,287.5	11
Nuclear	11,694.5	12	-	-	-	-	4,272.0	4
Other	144.8	2	-	-	77.5	4	-	-
Federal Region 4	**145,080.7**	**1,430**	**6,110.7**	**8**	**275.1**	**12**	**26,975.2**	**61**
Coal	76,838.1	278	3,936.5	6	74.7	1	11,243.2	18
Petroleum	23,984.8	411	-	-	57.6	5	246.0	3
Gas	8,401.0	172	-	-	142.8	6	-	-
Water	13,452.7	534	-	-	-	-	1,991.8	29
Nuclear	22,047.4	23	2,174.2	2	-	-	13,494.2	11
Other	356.7	12	-	-	-	-	-	-
Federal Region 5	**121,386.3**	**2,168**	**3,257.2**	**12**	**251.3**	**26**	**15,141.0**	**45**
Coal	85,127.2	497	2,081.0	3	43.5	9	6,628.5	15
Petroleum	15,026.5	841	-	-	86.7	4	-	-
Gas	2,190.9	239	-	-	121.1	13	199.2	6
Water	3,240.4	556	5.8	7	-	-	103.8	14
Nuclear	15,580.4	21	1,170.3	1	-	-	8,189.5	7
Other	220.9	14	.1	1	-	-	20.0	3
Federal Region 6	**100,454.7**	**926**	**1,605.4**	**3**	**528.5**	**39**	**24,995.2**	**57**
Coal	30,981.7	59	1,605.4	3	-	-	16,436.8	26
Petroleum	2,467.7	119	-	-	23.7	13	.7	4
Gas	61,746.0	621	-	-	504.8	26	1,435.0	10
Water	2,660.5	117	-	-	-	-	71.1	10
Nuclear	1,845.0	2	-	-	-	-	7,031.6	6
Other	753.8	8	-	-	-	-	20.0	1
Federal Region 7	**39,522.4**	**1,515**	**64.0**	**6**	**450.4**	**29**	**4,106.0**	**25**
Coal	27,252.3	158	-	-	413.3	8	1,366.5	3
Petroleum	3,944.8	839	6.0	2	2.8	8	24.2	7
Gas	5,035.2	423	-	-	33.7	12	235.5	12
Water	1,322.8	86	58.0	2	-	-	50.0	1
Nuclear	1,934.8	3	-	-	-	-	2,429.8	2
Other	32.5	6	.0	2	.6	1	-	-

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 6. Federal Region Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

Federal Region Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
Federal Region 8	**26,985.1**	**596**	**2,150.3**	**9**	**22.6**	**13**	**4,111.7**	**15**
Coal	19,142.3	94	1,918.8	4	12.0	2	4,051.3	8
Petroleum	1,318.0	175	-	-	10.6	11	-	-
Gas	554.8	62	-	-	-	-	39.3	1
Water	5,590.5	252	208.0	4	-	-	21.1	6
Nuclear	336.0	1	-	-	-	-	-	-
Other	43.5	12	23.5	1	-	-	-	-
Federal Region 9	**59,766.6**	**900**	**2,382.1**	**24**	**8.9**	**6**	**12,124.4**	**113**
Coal	7,229.8	18	-	-	-	-	3,610.9	8
Petroleum	20,299.6	279	7.5	3	8.9	6	20.8	4
Gas	11,843.6	117	-	-	-	-	249.0	5
Water	14,883.8	443	1,233.6	17	-	-	869.3	69
Nuclear	3,727.0	5	1,127.0	1	-	-	6,186.0	5
Other	1,782.8	38	14.0	3	-	-	1,188.4	22
Federal Region 10	**37,531.0**	**967**	**1,670.0**	**37**	**5.2**	**10**	**690.1**	**29**
Coal	1,943.8	8	-	-	-	-	-	-
Petroleum	900.5	329	19.1	22	5	4	52.6	14
Gas	1,841.4	36	325.2	3	1.0	1	116.3	2
Water	29,238.0	583	125.7	11	3.7	5	521.2	13
Nuclear	3,276.0	3	1,200.0	1	-	-	-	-
Other	331.3	8	-	-	-	-	-	-

[1] Planned additions are for 1985-1994.

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Table 7. Census Division Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

Census Region Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**672,055.2**	**10,499**	**18,697.8**	**109**	**2,176.9**	**158**	**103,144.3**	**418**
Coal	299,096.3	1,300	10,881.9	18	543.5	20	44,322.2	80
Petroleum	117,914.1	3,826	32.6	27	702.6	67	345.6	35
Gas	97,295.4	1,789	325.2	3	806.4	59	2,274.3	36
Water	81,802.4	3,394	1,640.3	47	4.5	6	7,696.9	198
Nuclear	71,861.1	85	5,671.5	5	-	-	47,191.7	40
Other	4,085.9	105	146.3	9	119.9	6	1,313.6	29
New England	**21,079.2**	**639**	**55.2**	**3**	**41.9**	**5**	**2,514.1**	**14**
Coal	2,283.2	13	-	-	-	-	-	-
Petroleum	11,184.7	255	-	-	41.1	4	-	-
Gas	181.5	11	-	-	-	-	-	-
Water	2,741.8	350	5.2	2	.8	1	111.0	12
Nuclear	4,462.1	7	-	-	-	-	2,403.1	2
Other	225.9	3	50.0	1	-	-	-	-
Middle Atlantic	**80,381.3**	**1,019**	**717.8**	**6**	**490.5**	**13**	**9,401.6**	**51**
Coal	24,235.3	104	655.1	1	-	-	-	-
Petroleum	30,318.6	429	-	-	445.7	11	1.3	3
Gas	5,235.5	99	-	-	3.0	1	-	-
Water	7,084.9	370	4.0	4	-	-	1,857.6	38
Nuclear	13,169.3	14	-	-	-	-	7,457.5	7
Other	337.7	3	58.7	1	41.8	1	85.2	3

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 7. Census Division Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

Census Region / Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
East North Central	**112,906.4**	**1,788**	**3,254.6**	**10**	**225.3**	**16**	**14,177.8**	**40**
Coal	80,052.3	438	2,081.0	3	26.5	5	5,672.0	12
Petroleum	13,711.6	631	-	-	83.7	1	-	-
Gas	2,006.3	196	-	-	115.1	10	199.2	6
Water	3,101.4	493	3.2	5	-	-	97.1	12
Nuclear	13,825.4	18	1,170.3	1	-	-	8,189.5	7
Other	209.4	12	.1	1	-	-	20.0	3
West North Central	**54,695.7**	**2,041**	**504.6**	**9**	**486.0**	**49**	**5,546.5**	**32**
Coal	36,484.0	240	438.0	1	430.3	12	2,761.0	7
Petroleum	5,819.1	1,135	6.0	2	15.4	21	24.2	7
Gas	5,229.8	469	-	-	39.7	15	274.8	13
Water	3,429.0	182	60.6	4	-	-	56.7	3
Nuclear	3,689.8	6	-	-	-	-	2,429.8	2
Other	44.0	9	.0	2	.6	1	-	-
South Atlantic	**125,552.9**	**1,297**	**6,239.6**	**8**	**237.6**	**13**	**17,594.1**	**47**
Coal	62,862.9	202	4,065.4	6	-	-	7,770.1	13
Petroleum	31,242.7	535	-	-	58.8	5	216.0	2
Gas	3,399.4	93	-	-	101.3	4	-	-
Water	7,833.7	432	-	-	-	-	3,817.8	27
Nuclear	19,856.7	22	2,174.2	2	-	-	5,790.2	5
Other	357.5	13	-	-	77.5	4	-	-
East South Central	**59,395.7**	**472**	**556.2**	**1**	**140.0**	**4**	**12,466.1**	**22**
Coal	38,037.8	147	556.2	1	74.7	1	4,458.1	7
Petroleum	1,211.0	25	-	-	23.8	1	30.0	1
Gas	5,267.1	88	-	-	41.5	2	-	-
Water	7,206.0	205	-	-	-	-	274.0	8
Nuclear	7,673.8	7	-	-	-	-	7,704.0	6
Other	-	-	-	-	-	-	-	-
West South Central	**94,969.3**	**855**	**1,372.4**	**2**	**503.5**	**36**	**24,732.2**	**54**
Coal	26,884.2	46	1,372.4	2	-	-	16,203.8	25
Petroleum	2,437.7	111	-	-	23.7	13	7	4
Gas	60,417.6	576	-	-	479.8	23	1,435.0	10
Water	2,636.0	113	-	-	-	-	41.1	8
Nuclear	1,845.0	2	-	-	-	-	7,031.6	6
Other	748.8	7	-	-	-	-	20.0	1
Mountain	**43,422.5**	**822**	**1,956.6**	**13**	**39.2**	**10**	**11,575.3**	**34**
Coal	26,312.8	102	1,713.8	4	12.0	2	7,457.2	16
Petroleum	958.8	141	-	-	2.1	4	-	-
Gas	7,040.7	180	-	-	25.0	3	50.0	1
Water	8,715.7	386	219.3	8	1	1	258.1	14
Nuclear	336.0	1	-	-	-	-	3,810.0	3
Other	48.5	12	23.5	1	-	-	-	-
Pacific	**76,541.0**	**1,110**	**3,884.1**	**26**	**.8**	**2**	**4,920.5**	**103**
Coal	1,890.3	3	-	-	-	-	-	-
Petroleum	19,013.5	187	-	-	-	-	1.4	1
Gas	7,791.3	55	247.2	2	-	-	199.0	4
Water	38,845.7	820	1,298.9	20	0.8	2	1,155.7	74
Nuclear	7,003.0	8	2,327.0	2	-	-	2,376.0	2
Other	1,997.2	37	11.0	2	-	-	1,188.4	22
Noncontiguous	**3,111.2**	**456**	**156.7**	**31**	**12.1**	**10**	**216.1**	**21**
Coal	53.5	5	-	-	-	-	-	-
Petroleum	2,006.4	377	26.6	25	8.3	7	72.0	17
Gas	726.2	22	78.0	1	1.0	1	116.3	2
Water	208.2	43	49.1	4	2.8	2	27.8	2
Nuclear	-	-	-	-	-	-	-	-
Other	116.9	9	3.0	1	-	-	-	-

[1] Planned additions are for 1985-1994.

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Summary

Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**672,055.2**	**10,499**	**18,697.8**	**109**	**2,176.9**	**158**	**103,144.3**	**418**
Coal	299,096.3	1,300	10,881.9	18	543.5	20	44,322.2	80
Petroleum	117,914.1	3,826	32.6	27	702.6	67	345.6	35
Gas	97,295.4	1,789	325.2	3	806.4	59	2,274.3	36
Water	81,802.4	3,394	1,640.3	47	4.5	6	7,696.9	198
Nuclear	71,861.1	85	5,671.5	5	-	-	47,191.7	40
Other	4,085.9	105	146.3	9	119.9	6	1,313.6	29
Alabama	**19,173.9**	**147**	**-**	**-**	**23.8**	**1**	**5,084.5**	**14**
Coal	10,575.9	40	-	-	-	-	2,116.5	3
Petroleum	126.9	4	-	-	23.8	1	30.0	1
Gas	476.0	8	-	-	-	-	-	-
Water	2,762.5	90	-	-	-	-	274.0	8
Nuclear	5,232.6	5	-	-	-	-	2,664.0	2
Other	-	-	-	-	-	-	-	-
Alaska	**1,621.9**	**376**	**146.2**	**27**	**4.2**	**6**	**196.7**	**18**
Coal	53.5	5	-	-	-	-	-	-
Petroleum	533.6	305	19.1	22	.4	3	52.6	14
Gas	726.2	22	78.0	1	1.0	1	116.3	2
Water	204.7	39	49.1	4	2.8	2	27.8	2
Nuclear	-	-	-	-	-	-	-	-
Other	103.9	5	-	-	-	-	-	-
Arizona	**10,339.8**	**106**	**-**	**-**	**-**	**-**	**5,845.9**	**10**
Coal	4,727.6	11	-	-	-	-	1,835.9	5
Petroleum	85.3	7	-	-	-	-	-	-
Gas	3,872.9	59	-	-	-	-	50.0	1
Water	1,654.0	29	-	-	-	-	150.0	1
Nuclear	-	-	-	-	-	-	3,810.0	3
Other	-	-	-	-	-	-	-	-
Arkansas	**9,300.8**	**100**	**800.0**	**1**	**-**	**-**	**-**	**-**
Coal	3,758.0	5	800.0	1	-	-	-	-
Petroleum	217.2	37	-	-	-	-	-	-
Gas	2,394.5	21	-	-	-	-	-	-
Water	1,086.1	35	-	-	-	-	-	-
Nuclear	1,845.0	2	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
California	**42,665.6**	**633**	**2,371.6**	**20**	**-**	**-**	**4,184.1**	**97**
Coal	-	-	-	-	-	-	-	-
Petroleum	18,654.6	168	-	-	-	-	1.4	1
Gas	6,726.1	42	-	-	-	-	199.0	4
Water	11,788.1	384	1,233.6	17	-	-	719.3	68
Nuclear	3,727.0	5	1,127.0	1	-	-	2,376.0	2
Other	1,769.8	34	11.0	2	-	-	1,188.4	22
Colorado	**7,286.9**	**172**	**802.8**	**3**	**12.0**	**2**	**924.4**	**7**
Coal	4,982.8	31	702.8	2	12.0	2	913.3	3
Petroleum	675.2	59	-	-	-	-	-	-
Gas	296.4	37	-	-	-	-	-	-
Water	995.5	44	100.0	1	-	-	11.1	4
Nuclear	336.0	1	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Connecticut	**6,083.7**	**86**	**-**	**-**	**18.6**	**1**	**1,253.1**	**1**
Coal	-	-	-	-	-	-	-	-
Petroleum	3,779.0	48	-	-	18.6	1	-	-
Gas	-	-	-	-	-	-	-	-
Water	133.0	35	-	-	-	-	-	-
Nuclear	2,171.7	3	-	-	-	-	1,253.1	1
Other	-	-	-	-	-	-	-	-
Delaware	**1,900.7**	**28**	**-**	**-**	**-**	**-**	**-**	**-**
Coal	959.2	5	-	-	-	-	-	-
Petroleum	941.5	23	-	-	-	-	-	-
Gas	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

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Summary

Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
District of Columbia	**868.0**	**4**	**-**	**-**	**-**	**-**	**-**	**-**
Coal	-	-	-	-	-	-	-	-
Petroleum	868.0	4	-	-	-	-	-	-
Gas	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Florida	**33,896.1**	**370**	**1,979.3**	**3**	**135.1**	**8**	**3,567.0**	**9**
Coal	8,198.0	23	1,979.3	3	-	-	3,556.0	6
Petroleum	19,173.8	269	-	-	33.8	4	-	-
Gas	2,129.6	62	-	-	101.3	4	-	-
Water	30.2	4	-	-	-	-	11.0	3
Nuclear	4,110.3	5	-	-	-	-	-	-
Other	254.2	7	-	-	-	-	-	-
Georgia	**18,367.4**	**186**	**891.0**	**1**	**-**	**-**	**5,688.8**	**19**
Coal	12,767.7	37	891.0	1	-	-	1,636.0	2
Petroleum	1,808.2	37	-	-	-	-	-	-
Gas	70.4	5	-	-	-	-	-	-
Water	2,021.1	105	-	-	-	-	1,622.8	15
Nuclear	1,700.0	2	-	-	-	-	2,430.0	2
Other	-	-	-	-	-	-	-	-
Hawaii	**1,489.3**	**80**	**10.5**	**4**	**7.9**	**4**	**19.4**	**3**
Coal	-	-	-	-	-	-	-	-
Petroleum	1,472.8	72	7.5	3	7.9	4	19.4	3
Gas	-	-	-	-	-	-	-	-
Water	3.5	4	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	13.0	4	3.0	1	-	-	-	-
Idaho	**2,033.7**	**114**	**11.3**	**4**	**.2**	**2**	**57.0**	**5**
Coal	-	-	-	-	-	-	-	-
Petroleum	8.0	5	-	-	1	1	-	-
Gas	50.0	1	-	-	-	-	-	-
Water	1,975.7	108	11.3	4	1	1	57.0	5
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Illinois	**32,029.2**	**377**	**1,170.3**	**1**	**2.1**	**1**	**5,887.1**	**6**
Coal	17,574.7	72	-	-	-	-	-	-
Petroleum	5,998.8	201	-	-	-	-	-	-
Gas	327.7	71	-	-	2.1	1	2.6	1
Water	27.2	23	-	-	-	-	-	-
Nuclear	8,058.5	9	1,170.3	1	-	-	5,884.5	5
Other	42.3	1	-	-	-	-	-	-
Indiana	**20,611.8**	**152**	**1,300.0**	**1**	**101.5**	**5**	**2,712.4**	**6**
Coal	19,001.7	80	1,300.0	1	12.5	1	2,532.4	4
Petroleum	1,140.3	47	-	-	-	-	-	-
Gas	181.6	5	-	-	89.0	4	180.0	2
Water	288.2	20	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Iowa	**8,912.7**	**448**	**-**	**-**	**21.4**	**9**	**-**	**-**
Coal	6,655.3	68	-	-	20.0	4	-	-
Petroleum	781.7	298	-	-	1.4	5	-	-
Gas	734.0	54	-	-	-	-	-	-
Water	122.0	24	-	-	-	-	-	-
Nuclear	597.2	1	-	-	-	-	-	-
Other	22.5	3	-	-	-	-	-	-
Kansas	**9,380.0**	**444**	**6.0**	**4**	**14.4**	**11**	**2,081.2**	**9**
Coal	5,587.0	19	-	-	-	-	720.0	1
Petroleum	806.9	254	6.0	2	4	2	2.4	2
Gas	2,974.0	161	-	-	13.4	8	121.0	5

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
Kansas								
Water	2.1	7	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	1,237.8	1
Other	10.0	3	0	2	.6	1	-	-
Kentucky	**16,322.1**	**112**	**556.2**	**1**	**74.7**	**1**	**2,341.6**	**4**
Coal	15,243.4	61	556.2	1	74.7	1	2,341.6	4
Petroleum	204.5	15	-	-	-	-	-	-
Gas	127.9	6	-	-	-	-	-	-
Water	746.3	30	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Louisiana	**15,521.7**	**142**	**-**	**-**	**296.0**	**16**	**4,236.8**	**5**
Coal	2,851.2	5	-	-	-	-	2,135.2	3
Petroleum	1,511.5	13	-	-	15.0	6	-	-
Gas	10,927.1	123	-	-	281.0	10	-	-
Water	-	-	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	2,101.6	2
Other	231.9	1	-	-	-	-	-	-
Maine	**2,370.2**	**175**	**-**	**-**	**1.8**	**2**	**98.1**	**7**
Coal	-	-	-	-	-	-	-	-
Petroleum	1,148.1	53	-	-	1.0	1	-	-
Gas	-	-	-	-	-	-	-	-
Water	358.1	121	-	-	.8	1	98.1	7
Nuclear	864.0	1	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Maryland	**10,445.9**	**105**	**685.1**	**1**	**102.5**	**5**	**685.0**	**1**
Coal	4,121.4	13	685.1	1	-	-	685.0	1
Petroleum	3,698.3	67	-	-	25.0	1	-	-
Gas	265.5	9	-	-	-	-	-	-
Water	531.2	13	-	-	-	-	-	-
Nuclear	1,828.7	2	-	-	-	-	-	-
Other	.8	1	-	-	77.5	4	-	-
Massachusetts	**9,819.2**	**186**	**-**	**-**	**21.5**	**2**	**-**	**-**
Coal	1,764.0	9	-	-	-	-	-	-
Petroleum	5,333.1	103	-	-	21.5	2	-	-
Gas	29.5	6	-	-	-	-	-	-
Water	1,653.7	64	-	-	-	-	-	-
Nuclear	863.0	2	-	-	-	-	-	-
Other	175.9	2	-	-	-	-	-	-
Michigan	**22,425.3**	**588**	**775.8**	**3**	**22.0**	**3**	**1,916.2**	**8**
Coal	12,396.1	90	775.0	1	10.0	2	807.0	2
Petroleum	3,694.6	177	-	-	-	-	-	-
Gas	828.0	79	-	-	12.0	1	6.0	1
Water	2,327.1	237	.8	2	-	-	3.2	4
Nuclear	3,172.0	4	-	-	-	-	1,100.0	1
Other	7.5	1	-	-	-	-	-	-
Minnesota	**8,479.9**	**380**	**2.6**	**2**	**26.0**	**10**	**963.2**	**5**
Coal	5,074.9	59	-	-	17.0	4	956.5	3
Petroleum	1,314.9	210	-	-	3.0	3	-	-
Gas	184.6	43	-	-	6.0	3	-	-
Water	139.0	63	2.6	2	-	-	6.7	2
Nuclear	1,755.0	3	-	-	-	-	-	-
Other	11.5	2	-	-	-	-	-	-
Mississippi	**5,707.9**	**49**	**-**	**-**	**41.[illegible]**	**2**	**2,500.0**	**2**
Coal	2,198.1	9	-	-	-	-	-	-
Petroleum	879.6	6	-	-	-	-	-	-
Gas	2,630.2	34	-	-	41.[illegible]	2	-	-
Water	-	-	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	2,500.0	2
Other	-	-	-	-	-	-	-	-

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
Missouri	**15,301.5**	**329**	**58.0**	**2**	**396.3**	**7**	**1,974.8**	**15**
Coal	11,759.5	53	-	-	393.3	4	646.5	2
Petroleum	1,705.9	166	-	-	-	-	21.8	5
Gas	771.9	79	-	-	3.0	3	114.5	7
Water	1,064.2	29	58.0	2	-	-	-	-
Nuclear	-	-	-	-	-	-	1,192.0	1
Other	-	-	-	-	-	-	-	-
Montana	**4,121.5**	**105**	**883.0**	**2**	**-**	**-**	**778.0**	**1**
Coal	1,735.8	5	778.0	1	-	-	778.0	1
Petroleum	23.8	1	-	-	-	-	-	-
Gas	138.6	5	-	-	-	-	-	-
Water	2,209.8	86	105.0	1	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	13.5	8	-	-	-	-	-	-
Nebraska	**5,928.2**	**294**	**-**	**-**	**18.3**	**2**	**50.0**	**1**
Coal	3,250.5	18	-	-	-	-	-	-
Petroleum	650.3	119	-	-	1.0	1	-	-
Gas	555.3	129	-	-	17.3	1	-	-
Water	134.5	26	-	-	-	-	50.0	1
Nuclear	1,337.6	2	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Nevada	**5,271.9**	**81**	**-**	**-**	**1.0**	**2**	**1,775.0**	**3**
Coal	2,502.2	7	-	-	-	-	1,775.0	3
Petroleum	86.9	32	-	-	1.0	2	-	-
Gas	1,244.6	16	-	-	-	-	-	-
Water	1,438.2	26	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
New Hampshire	**1,224.7**	**32**	**-**	**-**	**-**	**-**	**1,150.0**	**1**
Coal	509.2	3	-	-	-	-	-	-
Petroleum	634.1	9	-	-	-	-	-	-
Gas	-	-	-	-	-	-	-	-
Water	81.4	20	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	1,150.0	1
Other	-	-	-	-	-	-	-	-
New Jersey	**13,378.9**	**123**	**-**	**-**	**408.8**	**4**	**1,170.0**	**1**
Coal	1,757.4	9	-	-	-	-	-	-
Petroleum	7,715.5	90	-	-	367.0	3	-	-
Gas	491.8	13	-	-	-	-	-	-
Water	389.2	7	-	-	-	-	-	-
Nuclear	2,890.0	3	-	-	-	-	1,170.0	1
Other	135.0	1	-	-	41.8	1	-	-
New Mexico	**5,485.4**	**71**	**233.0**	**1**	**25.0**	**3**	**263.0**	**3**
Coal	4,097.5	13	233.0	1	-	-	233.0	1
Petroleum	30.0	8	-	-	-	-	-	-
Gas	1,328.4	45	-	-	25.0	3	-	-
Water	24.5	4	-	-	-	-	30.0	2
Nuclear	-	-	-	-	-	-	-	-
Other	5.0	1	-	-	-	-	-	-
New York	**32,535.3**	**638**	**717.8**	**6**	**35.7**	**7**	**3,772.1**	**41**
Coal	3,302.1	30	655.1	1	-	-	-	-
Petroleum	15,559.1	201	-	-	32.7	6	1.3	3
Gas	4,534.9	76	-	-	3.0	1	-	-
Water	5,012.6	325	4.0	4	-	-	1,670.1	33
Nuclear	4,067.9	5	-	-	-	-	2,015.5	2
Other	58.7	1	58.7	1	-	-	85.2	3
North Carolina	**19,644.9**	**196**	**1,220.3**	**1**	**-**	**-**	**1,685.8**	**2**
Coal	12,556.3	47	-	-	-	-	735.8	1
Petroleum	761.3	34	-	-	-	-	-	-
Gas	176.6	4	-	-	-	-	-	-
Water	1,946.7	105	-	-	-	-	-	-
Nuclear	4,174.0	4	1,220.3	1	-	-	950.0	1
Other	30.0	2	-	-	-	-	-	-

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions[1]	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
North Dakota	**4,193.6**	**57**	**438.0**	**1**	**3.1**	**4**	**477.3**	**2**
Coal	3,642.0	17	438.0	1	-	-	438.0	1
Petroleum	111.6	31	-	-	3.1	4	-	-
Gas	10.0	3	-	-	-	-	39.3	1
Water	430.0	5	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	0	1	-	-	-	-	-	-
Ohio	**27,236.8**	**248**	**6.0**	**1**	**87.7**	**3**	**2,552.5**	**3**
Coal	24,123.7	131	6.0	1	4.0	2	1,300.0	1
Petroleum	1,663.5	87	-	-	83.7	1	-	-
Gas	348.4	22	-	-	-	-	-	-
Water	49.2	4	-	-	-	-	47.5	1
Nuclear	962.0	1	-	-	-	-	1,205.0	1
Other	90.0	3	-	-	-	-	-	-
Oklahoma	**13,042.9**	**157**	**572.4**	**1**	**-**	**-**	**1,464.7**	**11**
Coal	4,689.8	9	572.4	1	-	-	1,089.0	2
Petroleum	62.1	26	-	-	-	-	7	4
Gas	7,202.5	84	-	-	-	-	375.0	5
Water	968.5	37	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	120.0	1	-	-	-	-	-	-
Oregon	**10,579.7**	**192**	**-**	**-**	**0.8**	**2**	**-**	**-**
Coal	560.5	1	-	-	-	-	-	-
Petroleum	119.3	5	-	-	-	-	-	-
Gas	409.8	6	-	-	-	-	-	-
Water	8,097.4	177	-	-	8	2	-	-
Nuclear	1,216.0	1	-	-	-	-	-	-
Other	176.7	2	-	-	-	-	-	-
Pennsylvania	**34,467.1**	**258**	**-**	**-**	**46.0**	**2**	**4,459.5**	**9**
Coal	19,175.8	65	-	-	-	-	-	-
Petroleum	7,044.0	138	-	-	46.0	2	-	-
Gas	208.8	10	-	-	-	-	-	-
Water	1,683.1	38	-	-	-	-	187.5	5
Nuclear	6,211.4	6	-	-	-	-	4,272.0	4
Other	144.0	1	-	-	-	-	-	-
Rhode Island	**267.1**	**19**	**-**	**-**	**-**	**-**	**-**	**-**
Coal	-	-	-	-	-	-	-	-
Petroleum	133.6	15	-	-	-	-	-	-
Gas	132.0	3	-	-	-	-	-	-
Water	1.5	1	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
South Carolina	**13,776.6**	**206**	**1,463.9**	**2**	**-**	**-**	**3,587.5**	**9**
Coal	5,278.3	24	510.0	1	-	-	857.3	2
Petroleum	1,030.5	46	-	-	-	-	216.0	2
Gas	757.3	13	-	-	-	-	-	-
Water	2,248.7	115	-	-	-	-	84.0	3
Nuclear	4,389.3	5	953.9	1	-	-	2,410.2	2
Other	72.5	3	-	-	-	-	-	-
South Dakota	**2,499.8**	**89**	**-**	**-**	**6.5**	**6**	**-**	**-**
Coal	514.8	6	-	-	-	-	-	-
Petroleum	447.8	55	-	-	6.5	6	-	-
Gas	-	-	-	-	-	-	-	-
Water	1,537.2	28	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Tennessee	**18,191.8**	**164**	**-**	**-**	**-**	**-**	**2,540.0**	**2**
Coal	10,020.4	37	-	-	-	-	-	-
Petroleum	-	-	-	-	-	-	-	-
Gas	2,033.0	40	-	-	-	-	-	-

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 8. State Summary of Existing Nameplate Capacity and Planned Nameplate Capacity Additions by Energy Source, as of December 1984—Continued

State Primary Energy Source	Existing Capacity		Added Capacity		Retired Capacity		Planned Additions	
	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units	(megawatts)	No. of Units
Tennessee								
Water	3,697.2	85	-	-	-	-	-	-
Nuclear	2,441.2	2	-	-	-	-	2,540.0	2
Other	-	-	-	-	-	-	-	-
Texas	**57,103.9**	**456**	**-**	**-**	**207.5**	**20**	**19,030.7**	**38**
Coal	15,585.2	27	-	-	-	-	12,979.6	20
Petroleum	646.9	35	-	-	8.7	7	-	-
Gas	39,893.5	348	-	-	198.8	13	1,060.0	5
Water	581.4	41	-	-	-	-	41.1	8
Nuclear	-	-	-	-	-	-	4,930.0	4
Other	396.9	5	-	-	-	-	20.0	1
Utah	**3,054.6**	**116**	**26.5**	**3**	**-**	**-**	**1,932.0**	**5**
Coal	2,676.8	16	-	-	-	-	1,922.0	3
Petroleum	39.7	14	-	-	-	-	-	-
Gas	109.8	17	-	-	-	-	-	-
Water	204.8	68	3.0	2	-	-	10.0	2
Nuclear	-	-	-	-	-	-	-	-
Other	23.5	1	23.5	1	-	-	-	-
Vermont	**1,314.3**	**141**	**55.2**	**3**	**-**	**-**	**12.9**	**5**
Coal	10.0	1	-	-	-	-	-	-
Petroleum	156.8	27	-	-	-	-	-	-
Gas	20.0	2	-	-	-	-	-	-
Water	514.1	109	5.2	2	-	-	12.9	5
Nuclear	563.4	1	-	-	-	-	-	-
Other	50.0	1	50.0	1	-	-	-	-
Virginia	**11,501.0**	**143**	**-**	**-**	**-**	**-**	**2,100.0**	**6**
Coal	4,023.8	20	-	-	-	-	-	-
Petroleum	2,942.5	54	-	-	-	-	-	-
Gas	-	-	-	-	-	-	-	-
Water	880.3	65	-	-	-	-	2,100.0	6
Nuclear	3,654.4	4	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Washington	**23,295.7**	**285**	**1,512.5**	**6**	**-**	**-**	**436.4**	**6**
Coal	1,329.8	2	-	-	-	-	-	-
Petroleum	239.6	14	-	-	-	-	-	-
Gas	655.4	7	247.2	2	-	-	-	-
Water	18,960.2	259	65.3	3	-	-	436.4	6
Nuclear	2,060.0	2	1,200.0	1	-	-	-	-
Other	50.7	1	-	-	-	-	-	-
West Virginia	**15,152.3**	**59**	**-**	**-**	**-**	**-**	**300.0**	**1**
Coal	14,958.2	33	-	-	-	-	300.0	1
Petroleum	18.6	1	-	-	-	-	-	-
Gas	-	-	-	-	-	-	-	-
Water	175.5	25	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Wisconsin	**10,603.3**	**423**	**2.5**	**4**	**12.0**	**4**	**1,109.6**	**17**
Coal	6,956.1	65	-	-	-	-	1,032.6	5
Petroleum	1,214.4	119	-	-	-	-	-	-
Gas	320.6	19	-	-	12.0	4	10.6	2
Water	409.7	209	2.4	3	-	-	46.4	7
Nuclear	1,632.9	4	-	-	-	-	-	-
Other	69.6	7	.1	1	-	-	20.0	3
Wyoming	**5,828.7**	**57**	**-**	**-**	**1.0**	**1**	**-**	**-**
Coal	5,590.1	19	-	-	-	-	-	-
Petroleum	18.9	15	-	-	1.0	1	-	-
Gas	-	-	-	-	-	-	-	-
Water	213.2	21	-	-	-	-	-	-
Nuclear	-	-	-	-	-	-	-	-
Other	6.5	2	-	-	-	-	-	-

[1] Planned additions are for 1985-1994.

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Electric Generating Units

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Electric Generating Units

Coal-fired and nuclear-powered capacity accounted for 88.5 percent of the total capacity that came on line in 1984. The remaining percent of total capacity that commenced commercial operation in 1984 included: petroleum, 0.2 percent; gas, 1.7 percent; water, 8.8 percent; and other (geothermal, wind, solar, refuse, wood, and waste heat), 0.8 percent.

All of the petroleum-fired capacity that came on line in 1984 is in internal combustion (diesel) units, while all of the gas-fired capacity is in gas-turbine units.

Included in the 47 hydroelectric generating units which came on line in 1984 is Pacific Gas and Electric Company's Helms pumped storage plant. This plant, with its three reversible turbines, has three 351-megawatt units.

Sacramento Municipal Utility District brought on line its one-megawatt solar unit (Solar 1) in August of 1984. Geothermal units were brought on line by Hawaii Electric Light Co., Inc. (Pohoiki 1, 3 MW) and Utah Power and Light (Blundell 1, 23.5 MW). The 58.7-megawatt Peekskill refuse plant in New York, operated by Westchester Refuse Energy System for Consolidated Edison Company, started commercial operation in April 1984. Burlington Electric Light's 50-megawatt wood-fueled J. C. McNeil plant in Vermont started commercial operation in June. Additional plants that started commercial operation in 1984 that are powered by "other" energy sources include the U.S. Army Corps of Engineers' 2-unit Wilson wind plant and Wisconsin Public Service Company's 1-unit Kewaunee wind plant. Together, these 3 wind units have a total capacity of 90 kilowatts.

Of the 158 electric generating units retired in 1984, 42.4 percent were

petroleum-fired (16 percent of these were steam units and 84 percent were gas-turbine and internal combustion units); 37.3 percent were gas-fired; and 12.7 percent were coal-fired. The remaining percentage of units retired were hydroelectric and "other" units. Steam-electric units accounted for 45.6 percent of the number of units retired in 1984: coal-fired, 27.8 percent, gas-fired, 48.6 percent, petroleum, 15.3 percent, and other (waste heat from combined cycle units and steam supplied by topping units), 8.3 percent.

The remaining 86 units retired in 1984 were mainly gas-turbine units and internal combustion units. Central Illinois Light Company's 2.1 megawatt Fargo gas-turbine project was scrapped after 2 years of operation. Among the various energy sources, the greatest number of units retired was petroleum-fired. However, the greatest amount of capacity retired was in gas-fired units. The least number of units retired and the least amount of capacity retired in 1984 was in hydroelectric generating units. Six hydroelectric units with a total capacity of 4 MW were retired.

As shown from data in Tables 10 and 11, the average capacity of the steam units that were retired in 1984 is 27 megawatts, while the average size of the coal-fired units that came on line in 1984 is 605 megawatts (see Table 9).

Table 9 of this chapter summarizes by primary energy source, capacity additions and retirements in 1984. Tables 10 and 11 list by State the individual units associated with these additions and retirements.

Table 9. United States Summary of Nameplate Capacity Additions and Retirements During 1984, by Energy Source

Primary Energy Source	Added Capacity		Retired Capacity	
	(megawatts)	No. of Units	(megawatts)	No. of Units
U.S. Total	**18,698**	**109**	**2,177**	**158**
Coal	10,882	18	543	20
Petroleum	33	27	703	67
Gas	325	3	806	59
Water	1,640	47	4	6
Nuclear	5,671	5	-	-
Other	146	9	120	6

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 10. Electric Generating Units Placed in Commercial Operation in 1984, by State, Company, and Plant

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source
Alaska						
Alaska Electric Lt & Pwr Co						
Lemon Creek	Juneau	C10	2.5	IC	FO2	
		C11	2.5	IC	FO2	
		C12	2.5	IC	FO2	
Salmon Creek 1	Juneau	HY7	6.7	HY	Water	
Alaska Power and Telephone Company						
Tok	Fairbanks North	7	1.3	IC	FO2	FO1
Craig	Prince of Wales	1	0.7	IC	FO2	
Alaska Village Electric Coop, Inc						
Gambell	Nome	2	0.3	IC	FO1	
Huslia	Anchorage	3	0.2	IC	FO1	
Kiana	Kobuk	4	0.2	IC	FO1	
Kivalina	Kobuk	3	0.2	IC	FO1	
Mountain Village	Bethel	1	0.3	IC	FO1	
Noorvik	Kobuk	2	0.3	IC	FO1	
		3	0.3	IC	FO1	
New Stuyahok	Dillingham	IC2	0.2	IC	FO1	
St Michael	Nome	2	0.2	IC	FO1	
Shageluk	Bethel	1	0.1	IC	FO1	
Toksook Bay	Bethel	2	0.2	IC	FO1	
		3	0.2	IC	FO1	
Ambler	Kobuk	1	0.2	IC	FO1	
Anchorage Mun Lt & Pwr Dept						
George M Sullivan	Anchorage	GT8	78.0	GT	Nat Gas	FO2
Cordova Electric Cooperative						
Orca Plant	Valdez-Cordova	3	2.5	IC	FO2	
		4	2.4	IC	FO2	
Ketchikan Public Utilities						
Swan Lake Hydro	Ketchikan Gatew	1	22.4	HY	Water	
Kodiak Electric Assn, Inc						
Terror Lake	Kodiak Island	1	10.0	HY	Water	
		2	10.0	HY	Water	
Yakutat Power Inc						
Yakutat	Skagway-Yakutat	2A	0.9	IC	FO2	
		C2A	0.9	IC	FO2	
Arkansas						
MID SO:Arkansas Power & Light Co						
Independence	Independence	2	800.0	ST	SUB	
California						
Burbank Public Service Department						
Magnolia	Los Angeles	M2	10.0	CW	WH	
Imperial Irrigation District						
Drop 1	Imperial	1	2.0	HY	Water	
		2	2.0	HY	Water	
		3	2.0	HY	Water	
East Highline	Imperial	1	2.4	HY	Water	
Metropolitan Wtr Dist of So Calif						
Rio Hondo	Los Angeles	1	1.9	PH	Water	
Coyote Creek	Orange	1	3.1	PH	Water	
Nevada Irrigation District						
Combie South	Nevada	1	0.5	HY	Water	
		2	0.5	HY	Water	
		3	0.5	HY	Water	

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 10. Electric Generating Units Placed in Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source
California						
Pacific Gas & Electric Company						
Helms	Fresno	1	351.0	PS	Water	
		2	351.0	PS	Water	
		3	351.0	PS	Water	
Sacramento Municipal Utility Dist						
Solar	Sacramento	1	1.0	SO	SUN	
Southern California Edison Company						
San Onofre	San Diego	3	1127.0	NP	Uranium	
Baker Dam	Los Angeles	HY1	0.1	PH	Water	
Turlock-Modesto Irrig Dists						
Stone Drop	Stanislaus	1	0.6	HY	Water	
Kings River Conservation Dist						
Pine Flat	Fresno	1	55.0	HY	Water	
		2	55.0	HY	Water	
		3	55.0	HY	Water	
Colorado						
Colorado-UTE Elec Assn, Inc						
Craig	Moffat	3	447.8	ST	BIT	
Platte River Power Auth						
Rawhide	Larimer	1	255.0	ST	BIT	
USBR-Lower Missouri Region						
Mount Elbert	Lake	2	100.0	PS	Water	
Florida						
Florida Power Corporation						
Crystal River	Citrus	5	739.3	ST	BIT	
Seminole Electric Coop Inc						
Seminole	Putnam	1	620.0	ST	BIT	
		2	620.0	ST	BIT	
Georgia						
SO CO:Georgia Power Co						
Scherer	Monroe	2	891.0	ST	BIT	
Hawaii						
Hawaii Electric Light Co, Inc						
Pohoiki	Hawaii	1	3.0	GE	GST	
Keahole	Hawaii	20	2.5	IC	FO2	
		21	2.5	IC	FO2	
		22	2.5	IC	FO2	
Idaho						
Idaho Power Company						
Cascade	Valley	1	6.2	HY	Water	
Utah Power & Light Company						
Last Chance	Caribou	1	1.7	HY	Water	
		2	1.7	HY	Water	
		3	1.7	HY	Water	
Illinois						
Commonwealth Edison Company						
La Salle	La Salle	2	1170.3	NB	Uranium	

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 10. Electric Generating Units Placed in Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source
Indiana						
AEP:Indiana & Michigan Electric Co						
Rockport (Proj 2601)	Spencer	1	1300.0	ST	BIT	
Kansas						
Attica City of						
Attica	Harper	IC3	1.1	IC	FO2	Nat Gas
Kingman City of						
Kingman	Kingman	8	4.9	IC	FO2	Nat Gas
USCE-Kansas City Dist						
Wilson	Russell	1	0.0	WM	Wind	
		2	0.0	WM	Wind	
Kentucky						
Kentucky Utilities Company						
Ghent	Carroll	4	556.2	ST	BIT	
Maryland						
Baltimore Gas & Electric Co						
Brandon Shores	Anne Arundel	1	685.1	ST	BIT	
Michigan						
Detroit Edison Company, The						
Belle River	St Clair	ST1	775.0	ST	SUB	
Traverse, City of El Lt & Pwr (MI)						
Elk Rapids	Antrim	3	0.4	HY	Water	
		4	0.4	HY	Water	
Minnesota						
Rochester, City of Elec Dept (MN)						
Rochester Hydro	Wabasha	1	1.3	HY	Water	
		2	1.3	HY	Water	
Missouri						
Southwestern Power Adm						
Clarence Cannon	Ralls	1	31.0	PS	Water	
		2	27.0	PS	Water	
Montana						
Montana Power Company, The						
Colstrip	Rosebud	3	778.0	ST	BIT	
U S Army Corps of Engineers						
Libby	Lincoln	5	105.0	HY	Water	
New Mexico						
Plains Elec Gen & Trans Coop, Inc						
Escalante	McKinley	1	233.0	ST	SUB	
New York						
Westchester Refuse Energy Sys						
Peekskill Refuse	Westchester	1	58.7	ST	Refuse	
Hydro Development Group Inc.						
Copenhagen	Lewis	1	1.5	HY	Water	
		2	1.5	HY	Water	

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 10. Electric Generating Units Placed in Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source
New York						
Hydro Development Group Inc.						
No 3 Mill	St Lawrence	1	0.5	HY	Water	
		2	0.5	HY	Water	
New York State Elec & Gas Corp						
Somerset	Niagara	1	655.1	ST	BIT	
North Carolina						
Duke Power Company						
McGuire	Mecklenburg	2	1220.3	NP	Uranium	
North Dakota						
Basin Electric Pwr Coop, Inc						
Antelope Valley	Mercer	1	438.0	ST	LIG	
Ohio						
St Marys Mun Lt & Pwr Plant						
St Marys	Auglaize	5	6.0	ST	BIT	
Oklahoma						
Oklahoma Gas & Electric Co						
Muskogee	Muskogee	6	572.4	ST	SUB	
South Carolina						
South Carolina Electric & Gas Co						
V C Summer	Fairfield	1	953.9	NP	Uranium	
South Carolina Public Service Auth						
Cross	Berkeley	2	510.0	ST	BIT	
Utah						
Ephraim City Corporation						
Hydro Plant No 3	Sanpete	2	0.8	HY	Water	
		3	2.2	HY	Water	
Utah Power & Light Company						
Blundell	Millard	1	23.5	GE	GST	
Vermont						
Burlington Electric Light Dept						
J C Mcneil	Chittenden	1	50.0	ST	Wood	
Central Vermont Pub Serv Corp						
East Barnet	Caledonia	1	2.2	HY	Water	
Vermont Marble Company						
Proctor	Rutland	5	3.0	HY	Water	
Washington						
Puget Sound Power & Light Company						
Fredonia	Skagit	1	123.6	GT	Nat Gas	FO2
		2	123.6	GT	Nat Gas	FO2
Spokane, City of Water Division						
Upriver Dam	Spokane	FU1	5.9	HY	Water	
		FU2	5.9	HY	Water	
Washington Public Power Supply Sys						
WNP-2	Benton	2	1200.0	NB	Uranium	

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 10. Electric Generating Units Placed in Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity* (MW)	Unit Type	Primary Energy Source	Alternate Energy Source
Washington						
USBR-Pacific NW Region						
Grand Coulee	Grant	G12	53.5	HY	Water	
Wisconsin						
Wisconsin Public Service Corp						
Hat Rapids	Oneida	2	0.5	HY	Water	
		3	0.4	HY	Water	
Merrill	Lincoln	3	1.5	HY	Water	
Kewaunee Wind	Kewaunee	1	0.0	WM	Wind	

* Generator nameplate rating.
Note: Where rating appears as 0.0, reported value is less than 50 kW.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
Alabama							
SO CO:Alabama Power Co							
Demopolis	Marengo	2	23.8	GT	FO2		1969
Alaska							
Alaska Electric Lt & Pwr Co							
Salmon Creek 1	Juneau	1	1.4	HY	Water		1913
		2	1.4	HY	Water		1913
Alaska Power and Telephone Company							
Craig	Prince of Wales	2	0.1	IC	FO2		1965
		R1	0.1	IC	FO2		1978
Alaska Village Electric Coop, Inc							
Nunapitchuk	Bethel	1	0.2	IC	FO1		1970
Chugach Electric Assn, Inc							
Knik Arm	Anchorage	ST4	1.0	ST	Nat Gas		1952
Colorado							
Colorado-UTE Elec Assn, Inc							
Bullock	Montrose	1	6.0	ST	BIT		1951
		2	6.0	ST	BIT	FO2	1953
Connecticut							
NE Util:Conn Light & Power Co							
Branford	New Haven	10	18.6	GT	Jet Fuel		1969
Florida							
Kissimmee, City of							
Hansel	Osceola	10	2.0	IC	FO2	Nat Gas	1965
		11	2.0	IC	FO2	Nat Gas	1965
New Smyrna Beach, City of							
W E Swoope	Volusia	1	7.5	ST	Nat Gas	FO6	1964
Orlando Utilities Commission							
Lake Highland	Orange	A	18.8	GT	Nat Gas	FO2	1958
		2	37.5	ST	Nat Gas	FO6	1954
		3	37.5	ST	Nat Gas	FO6	1956
		IC1	1.0	IC	FO2		1970
		ST1	28.8	ST	FO2		1970
Hawaii							
Hawaii Electric Light Co, Inc							
Puueo	Hawaii	5	1.0	IC	FO2		1951
		6	1.0	IC	FO2		1951
		7	1.0	IC	FO2		1951
Shipman	Hawaii	2	4.9	ST	FO6		1951
Idaho							
Kirby Power Commission							
Kirby	Elmore	1	0.1	HY	Water		1963
		IC2	0.1	IC	FO2		1963
Illinois							
Central Illinois Light Co							
Fargo	Peoria	1	2.1	GT	Nat Gas		1982
Indiana							
Indianapolis Pwr & Lt Co							
Perry K	Marion	5	12.5	ST	BIT		1938

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity[1] (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
Indiana							
Southern Indiana Gas & Electric Co							
Ohio River	Vanderburgh	4	20.0	ST	Nat Gas	FO2	1938
		5	23.0	ST	Nat Gas	FO2	1945
		6	23.0	ST	Nat Gas	FO2	1949
		7	23.0	ST	Nat Gas	FO2	1951
Iowa							
Ames, City of Electric Utility							
Ames	Story	5	7.5	ST	BIT		1950
Cedar Falls Utilities							
Streeter Station	Black Hawk	4	5.0	ST	BIT	Nat Gas	1949
		5	5.0	ST	BIT	Nat Gas	1954
Mapleton Mun Corp Light & Pwr Dept							
Mapleton	Monona	4	0.3	IC	FO2		1947
		5	0.3	IC	FO2		1947
		6	0.5	IC	FO2		1953
Sibley Municipal Utilities							
Sibley	Osceola	1	2.5	ST	BIT	Nat Gas	1948
Traer Municipal Utilities							
Municipal Ut	Tama	1	0.1	IC	FO2		1958
		2	0.2	IC	FO2		1960
Kansas							
Attica City of							
Attica	Harper	3	0.2	IC	FO2	Nat Gas	1948
Beloit, City of							
Beloit	Mitchell	8	0.6	CW	WH		1979
Caney Valley Elec Coop Assn, Inc							
Sedan	Chautauqua	5	1.0	IC	Nat Gas	FO2	1951
Horton City of							
Horton	Brown	1	1.7	IC	Nat Gas	FO2	1971
		2	1.5	IC	Nat Gas	FO2	1960
		3	1.2	IC	Nat Gas	FO2	1963
Hugoton City of							
Hugoton	Stevens	3	0.2	IC	FO2	Nat Gas	1930
Sunflower Electric Coop (Kansas)							
Jess Taylor	Scott	1	2.0	IC	Nat Gas	FO2	1951
		2	2.0	IC	Nat Gas	FO2	1951
		3	2.0	IC	Nat Gas	FO2	1951
		4	2.0	IC	Nat Gas	FO2	1951
Kentucky							
Louisville Gas & Electric Co							
Paddys Run	Jefferson	6	74.7	ST	BIT		1952
Louisiana							
Central Louisiana Elec Co, Inc							
Coughlin	Evangeline	1	7.5	ST	Nat Gas		1948
		2	7.5	ST	Nat Gas		1948
		3	10.0	ST	Nat Gas		1949
		4	25.0	ST	Nat Gas	FO2	1952
Franklin	St Mary	1	1.4	IC	FO2	Nat Gas	1955
		2	1.4	IC	FO2	Nat Gas	1955
		5	4.1	IC	FO2	Nat Gas	1968
		6	2.0	IC	FO2	Nat Gas	1962

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity[1] (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
Louisiana							
Central Louisiana Elec Co, Inc							
		7	2.0	IC	FO2	Nat Gas	1962
		8	4.1	IC	FO2	Nat Gas	1968
MID SO:Louisiana Power & Light Co							
Sterlington	Ouachita	5	43.7	ST	Nat Gas		1943
MID SO:New Orleans Public Service							
A B Paterson	Orleans	1	45.5	ST	Nat Gas	FO6	1947
		2	45.5	ST	Nat Gas	FO6	1948
Market Street	Orleans	11	30.0	ST	Nat Gas	FO5	1938
		12	37.5	ST	Nat Gas	FO5	1943
		13	28.8	ST	Nat Gas	FO5	1952
Maine							
Bangor Hydro Electric Co							
East Machias	Washington	2	1.0	IC	FO2		1949
Central Maine Power Company							
Milstar	Kennebec	1	0.8	HY	Water		1974
Maryland							
Baltimore Gas & Electric Co							
Westport	Baltimore City	1	25.0	ST	FO6		1940
		7	17.5	ST	STM		1914
		8	20.0	ST	STM		1917
		13	20.0	ST	STM		1924
		14	20.0	ST	STM		1924
Massachusetts							
Braintree Electric Light Dept							
Potter Station 2	Norfolk	ST1	12.5	ST	FO2		1959
Holyoke Gas & Elec Dept (MA)							
Cabot-Holyoke	Hampden	10	9.0	GT	Jet Fuel		1964
Michigan							
Wyandotte Dept of Mun Service							
Wyandotte	Wayne	1	4.0	ST	BIT		1939
		2	6.0	ST	BIT		1942
		3	12.0	ST	Nat Gas		1951
Minnesota							
Glencoe Mun Electric Plant							
Glencoe	McLeod	3	1.0	IC	Nat Gas	FO2	1939
		4	1.0	IC	Nat Gas	FO2	1946
Hibbing Public Utilities Comm							
Hibbing	St Louis	1	5.0	ST	BIT	Nat Gas	1941
Moorhead Public Service Dept							
Moorhead	Clay	3	3.0	ST	LIG		1940
		4	3.0	ST	LIG		1948
		5	6.0	ST	LIG		1952
Northern States Power Co							
Glenwood	Pope	1	1.0	IC	FO2		1947
		2	1.0	IC	FO2		1947
		3	1.0	IC	FO2		1947
Owatonna Municipal Public Utilities							
Owatonna	Steele	4	4.0	ST	Nat Gas	FO6	1950

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
Mississippi							
MID SO:Mississippi Power & Light Co							
Rex Brown	Hinds	2	40.0	ST	Nat Gas		1949
Yazoo City Public Service Comm							
Yazoo	Yazoo	1	1.5	ST	Nat Gas	FO2	1931
Missouri							
Fayette Water & Light Plant							
Fayette	Howard	5	1.0	IC	Nat Gas	FO2	1960
		6	1.0	IC	Nat Gas	FO2	1960
		7	1.0	IC	Nat Gas	FO2	1962
Kansas City Power & Light Co							
Hawthorn	Jackson	1	69.0	ST	BIT	Nat Gas	1951
		2	69.0	ST	BIT	Nat Gas	1951
		3	112.5	ST	BIT	Nat Gas	1953
		4	142.8	ST	BIT	Nat Gas	1955
Nebraska							
Lincoln City of (NE)							
Lincoln K Street	Lancaster	3	17.3	ST	Nat Gas	FO2	1950
Wauneta Municipal Utilities							
Wauneta	Chase	4	1.0	IC	FO2		1951
Nevada							
Sierra Pacific Power Company							
Elko	Elko	2	0.5	IC	FO2		1942
		5	0.5	IC	FO2		1935
New Jersey							
Public Service Elec and Gas Co							
Burlington	Burlington	5	125.0	ST	FO6		1940
		6	125.0	ST	FO6		1943
		105	41.8	CW	WH		1974
Essex	Essex	1	117.0	ST	FO6	Nat Gas	1974
New Mexico							
Public Service Co of New Mexico							
Prager	Bernalillo	7	7.5	ST	Nat Gas	FO2	1946
		8	6.0	ST	Nat Gas	FO2	1949
		9	11.5	ST	Nat Gas	FO2	1949
New York							
Fishers Is Elec Corp ,The							
Fishers Island	Suffolk	1	0.2	IC	FO2		1941
		2	0.2	IC	FO2		1941
		3	0.2	IC	FO2		1941
Lawrence Park Lt & Pwr							
Bronxville	Westchester	IC1	0.3	IC	FO2		1968
Rochester Gas & Elec Corp (NY)							
Rochester No 3	Monroe	11	28.8	ST	FO6	Nat Gas	1943
Rochester No 8	Monroe	1	3.0	ST	Nat Gas		1926
Rochester No 9	Monroe	1	3.0	ST	FO6	Nat Gas	1929
North Dakota							
Nodak Rural Elec Coop Inc							
Mobile	Grand Forks	1	0.1	IC	FO2		1954

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity[1] (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
North Dakota							
Otter Tail Power Company							
Casselton	Cass	1	1.0	IC	FO2		1948
Cooperstown	Griggs	1	1.0	IC	FO2		1949
Oakes	Dickey	1	1.0	IC	FO2		1948
Ohio							
Columbus & Southern Ohio Elec Co							
Walnut	Franklin	GT9	83.7	GT	FO2	Nat Gas	1971
Orrville Public Utilities							
Orrville	Wayne	5	1.5	ST	BIT	Nat Gas	1928
		6	2.5	ST	BIT	Nat Gas	1940
Oregon							
Pacific Power & Light Company							
Albany	Linn	1	0.4	HY	Water		1923
		2	0.4	HY	Water		1923
Pennsylvania							
APS:West Penn Power Co							
Milesburg	Centre	1	23.0	ST	FO2		
		2	23.0	ST	FO2		
South Dakota							
Northwestern Public Service Company							
Yankton Old	Yankton	1	3.0	IC	FO2		1967
Onida Mun Lt & Pwr Sys							
Onida	Sully	1	0.3	IC	FO2		1949
		2	0.2	IC	FO2		1949
Otter Tail Power Company							
Britton	Marshall	1	1.0	IC	FO2		1948
Lake Preston	Kingsbury	1	1.0	IC	FO2		1948
		2	1.0	IC	FO2		1974
Texas							
Texas Util/Texas Utilities Elec Co							
Permian Basin	Ward	1	12.5	ST	Nat Gas	FO5	1948
		2	12.5	ST	Nat Gas	FO5	1948
		3	12.5	ST	Nat Gas	FO5	1949
		4	12.5	ST	Nat Gas	FO5	1949
Commerce	Hunt	4	1.3	IC	FO2		1955
		5	1.8	IC	FO2		1972
		6	0.9	IC	FO2		1951
		7	1.3	IC	FO2		1962
		8	1.5	IC	FO2		1968
		9	1.8	IC	FO2		1972
Brownfield Mun Pr & Lt Plant							
Brownfield	Terry	2	1.0	IC	Nat Gas	FO2	1947
Gulf States Utilities Company							
Neches	Jefferson	3	27.5	ST	Nat Gas		1938
Hearne Municipal Plant							
Hearne	Robertson	4	0.7	IC	Nat Gas	FO2	1969
Whitesboro City of							
Whitesboro	Grayson	3	0.5	IC	Nat Gas		1951
		4	0.1	IC	FO2		1951

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Electric Generating Units

Table 11. Electric Generating Units Retired from Commercial Operation in 1984, by State, Company, and Plant—Continued

State Company Plant	County	Unit Number	Capacity* (MW)	Unit Type	Primary Energy Source	Alternate Energy Source	In Service Date
Texas							
Southwestern Public Service Co							
Denver City Plant	Gaines	4	50.0	ST	Nat Gas		1955
Moore County	Moore	2	19.2	ST	Nat Gas		1950
		3	49.0	ST	Nat Gas		1954
Tulia Light & Power Plant							
Tulia	Swisher	1	0.4	IC	Nat Gas	FO2	1949
		3	0.5	IC	Nat Gas	FO2	1946
Wisconsin							
Cedarburg Lt & Wtr Comm							
Cedarburg	Ozaukee	4	2.0	IC	Nat Gas	FO2	1953
		5	4.0	IC	Nat Gas	FO2	1959
		45	2.0	IC	Nat Gas		1962
		55	4.0	IC	Nat Gas		1945
Wyoming							
Black Hills Pwr & Lt Co							
Osage	Weston	IC1	1.0	IC	FO2		1947

* Generator nameplate rating.
Note: Where rating appears as 0.0, reported value is less than 50 kW.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

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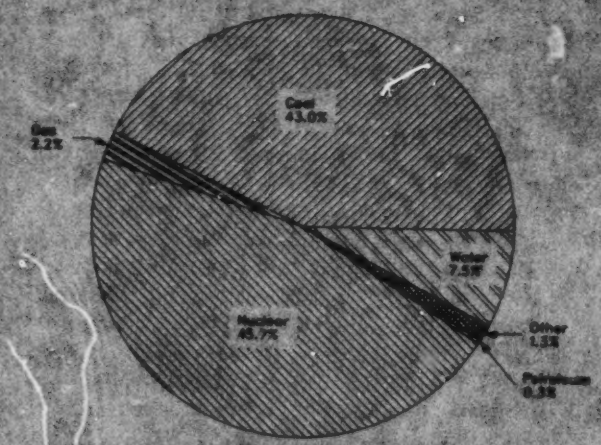
Projected Units

Because of the combined results of the slowdown in demand growth and the employment of load management and conservation programs, electric utilities have lowered their demand forecasts and have correspondingly made changes in their planned generating capacity additions. Long leadtimes in the construction of baseload generating capacity has left the industry with construction plans for new facilities that were made during years of much higher expected demand growth. Although the industry has scaled back capacity expansion plans by the postponement and cancellation of some planned capacity additions, electric utilities are still committed to a continuing construction program that will assure safe, reliable, and affordable sources of electricity to meet future electric power needs of existing and new customers.

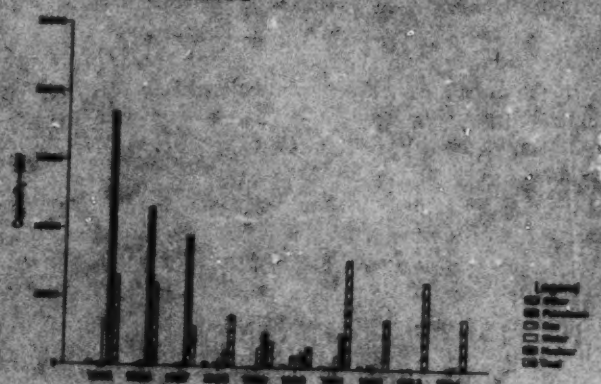
Electric utilities are planning to install 103,144 MW of generating capacity from 1985 to 1994. This total includes units that were being tested, under construction, or in various stages of planning at the close of 1984. Construction on 24 of these units, totaling 5,938 MW, was completed and they were in testing phase at

Figure 9. Percent Nameplate Capacity Additions by Energy Source, 1985-1994

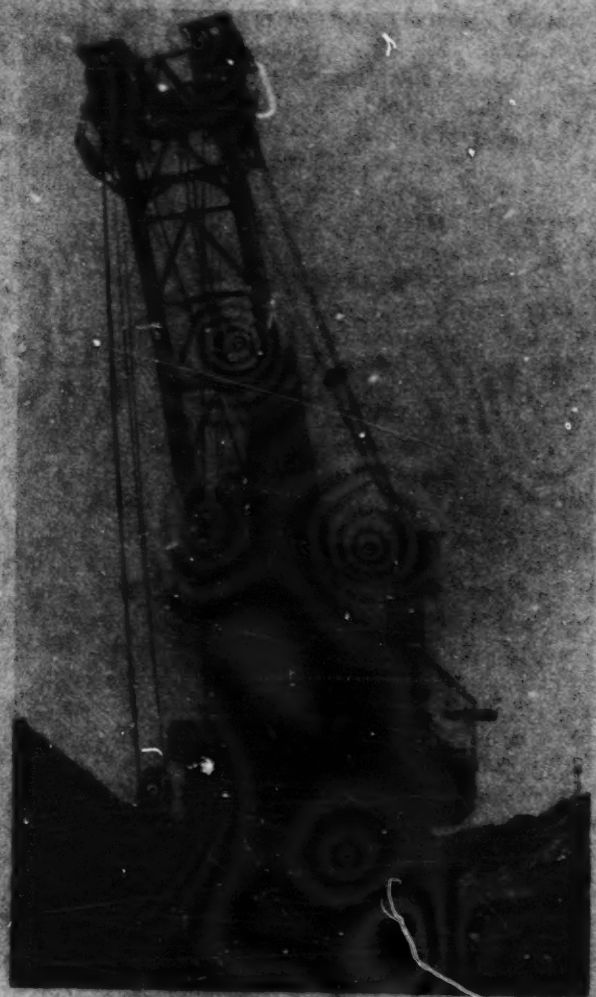


Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

Figure 10. Projected Nameplate Capacity Additions by Year and Energy Source



Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"



Together, coal and nuclear-fueled capacity additions total 88.7 percent of planned capacity additions.

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Projected Units

the close of 1984. These units are noted with a status of "T" in Table 12. Over half of the total capacity scheduled for commercial service by 1994 is due on line before January 1988.

Together, coal and nuclear-fueled capacity additions total 91,514 MW, or 88.7 percent of the total planned capacity additions. No nuclear units are scheduled beyond 1991. Those nuclear units scheduled to be on line by 1991 represent the last of the orders for nuclear units that were placed prior to 1979.

Electric utilities have incorporated 2,304 MW of petroleum and gas-fired peaking capacity (internal combustion and gas-turbines) in their planned capacity additions. These units have shorter leadtimes for construction and have lower capital costs, in comparison to coal and nuclear-fueled baseload plants. Although these planned internal combustion and gas-turbine units accounted for a small percentage of total planned capacity additions, they have an important role in electric utilities' plans for serving peak demands and meeting emergency situations. Table 12 lists 2 petroleum-fired combined cycle units with a combined capacity of 216 MW. Additionally, included in Table 12 is Southern California Edison's Cool Water Coal Gasification Project, that is scheduled to go into commercial operation in 1990.

Hydroelectric capacity accounts for 7.5 percent of planned capacity additions. While the potential for large-scale hydroelectric plants has all but disappeared, the potential for small-scale capacity has increased. Of the 176 conventional hydroelectric units scheduled to be on line by 1994, 143 are less than 30 MW in size. Economical and environmentally acceptable sites for large . hydroelectric plants have become less feasible; those that are being planned are mostly pumped-storage. The construction of large pumped-storage plants is more feasible because they do not require huge dams like the large conventional hydroelectric plants, and they have less impact on the environment than conventional hydroelectric plants. The Bath County hydroelectric project, located in Virginia, will be the largest pure pumped-storage project in the United States when all six of its 350-MW units are on line in 1985.

Electric utilities plan to add 1,314 MW of capacity in alternative and renewable energy sources (exclusive of hydroelectric power) to their generating systems within the next 10 years. These sources include geothermal, wind, solar, wood and refuse. Between 1985 and 1994, 14 geothermal units with a total capacity of 1,153 MW, 2 wind units with a total capacity of 0.3 MW, 4 solar units with a total capacity of 19 MW, 7 refuse-fueled units with a total capacity of 122 MW and 2 wood-fueled units with a total capacity of 20 MW are expected to start commercial operation. Glendale Public Service Department is planning 3 additional units in its Scholl Canyon Methane Plant Project (SCAMPP). SCAMPP I and SCAMPP II are 2 internal combustion projects built above a solid-waste landfill, with the primary energy source being refuse. Glendale Public Service currently has 3 such units installed and in commercial operation. Aside from plans to construct and operate electric generating units that use alternative and renewable energy sources for the production of electricity, utilities are contracting for the outputs of existing and planned developer-entrepreneur-owned alternative and renewable (wind, solar, biomass, and cogeneration facilities) energy source systems.

Over 11,000 MW of capacity were canceled during 1984. These cancellations include over 4,000 MW of coal-fired capacity, nearly 7,000 MW of nuclear-fired capacity and small amounts of hydroelectric and petroleum-fired capacity. Those nuclear units that were canceled during 1984 include Tennessee Valley Authority's (TVA) Hartsville units A1 and A2, TVA's Yellow Creek units 1 and 2, Gulf States Utilities' River Bend 2 and Cincinnati Gas and Electric Company's (proposed operator) W. H. Zimmer 1.

The W. H. Zimmer nuclear plant was near completion in 1983 when the decision was made to convert it to a coal-fired plant. This planned conversion is included in Table 12 with the projected generating units. The coal-retrofit for this proposed 1300-MW (previous 810-MWe nuclear) plant is expected to be complete by June 1991. Such a decision to convert a nuclear facility to a coal-fired generating facility has been unprecedented in the electric utility industry's history.

Over 9,000 MW of capacity were indefinitely postponed or delayed beyond 1994. Central Power and Light's 720-MW Valley Coal 1, the 720-MW Inola 1 of Public Service Company of Oklahoma, and Deseret Generation and Transmission Coop.'s 400-MW Bonanza 2 (all coal-fired units) are now scheduled to come on line in 1995. Principal reasons reported by electric utilities for postponing or canceling these units were revised load forecast and financial or economic problems.

If the current scheduled completion dates have been extended beyond 1994 for units that appeared in the 1983 publication, those units are not included in this publication.

Detailed information about projected electric generating units is contained in Table 12.

Planned capacity retirements during the period 1985-1994 total 16,525 MW. Of this capacity, 41.0 percent is in petroleum-fired units; 42.8 percent in gas-fired units; 13.4 percent in coal-fired units; 1.6 percent in nuclear-fired units; 0.5 percent in hydroelectric units; and 0.7 percent in electric generating units that primarily use other energy sources.

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984

State / Company / Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status
Alabama							
Alabama Elec Coop, Inc							
Demopolis Hydro	Sumter	HC1	Oct 88/	18.0	HY	Water	P
		HC2	Nov 88/	18.0	HY	Water	P
		HC3	Dec 88/	18.0	HY	Water	P
UNDESIGNATED	Covington	1	Jun 93/Apr 90	30.0	GT	FO2	P
SO CO Alabama Power Co							
Mitchell Dam	Coosa	5	Apr 85/Aug 81	50.0	HY	Water	U
		6	Apr 85/Oct 81	50.0	HY	Water	U
		7	Apr 85/Dec 81	50.0	HY	Water	U
Thurlow Dam	Elmore	4	Apr 92/Apr 92	40.0	HY	Water	P
Yates Dam	Elmore	3	Apr 92/Apr 92	30.0	HY	Water	P
James H Miller Jr	Jefferson	2	May 85/Jun 79	705.5	ST	BIT	U
		3	Jun 89/Jun 81	705.5	ST	BIT	U
		4	Jun 91/Jun 81	705.5	ST	BIT	U
Tennessee Valley Authority							
Bellefonte	Jackson	1	Apr 89/Jul 77	1332.0	NP	Uranium	U
		2	Apr 91/Apr 78	1332.0	NP	Uranium	U
Alaska							
Alaska Power Administration							
Crater Lake	Juneau	3	Mar 89/Mar 88	27.0	HY	Water	P
Alaska Power and Telephone Company							
Skagway	Juneau	4	Mar 86/ 83	0.8	HY	Water	P
Alaska Village Electric Coop, Inc							
Mountain Village	Bethel	4	88/ 88	0.3	IC	FO1	U
Selawik	Kobuk	4	88/ 88	0.2	IC	FO1	U
Togiak	Dillingham	4	88/ 88	0.3	IC	FO1	U
Alaska Electric G & T Coop, Inc							
Soldotna	Kenai Peninsula	GT1	Oct 85/Oct 85	37.9	GT	FO2	U
Bethel Utilities Commission							
Bethel	Bethel	5	Feb 85/	1.0	IC	FO2	T
Chugach Electric Assn, Inc							
Beluga	Kenai Peninsula	10	Nov 89/Nov 89	77.3	GT	Nat Gas	P
Bernice Lake	Kenai Peninsula	6	Nov 87/Nov 87	39.0	GT	Nat Gas	P
Haines Light and Power Company							
Haines	Haines	IC8	Apr 86/Apr 86	0.8	IC	FO2	U
Metlakatla Power & Light							
Metalakatla	Fairbanks North	IC6	Sep 85/Sep 85	0.7	IC	FO2	P
		IC7	Sep 85/Sep 85	0.7	IC	FO2	P
		IC8	Sep 85/Sep 85	0.7	IC	FO2	P
Nome Light and Power Utilities							
Snake River	Nome	9	Dec 85/Nov 85	2.8	IC	FO2	P
Nushagak Electric Coop, Inc							
Dillingham	Dillingham	8	Feb 85/Feb 85	0.8	IC	FO2	T
		IC9	Feb 85/Feb 85	0.8	IC	FO2	T
Seward Electric System							
Schoonmaker	Kenai Peninsula	IC3	Sep 85/Sep 85	2.8	IC	FO2	U
EMD	Kenai Peninsula	IC4	Sep 85/Sep 85	2.8	IC	FO2	U
Arizona							
Arizona Public Service Company							
Cholla	Navajo	5	May 93/May 83	375.0	ST	BIT	P
Saguaro	Pinal	GT3	May 92/May 87	50.0	GT	Nat Gas	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
Arizona							
Arizona Public Service Company							
UNSITED	Maricopa	PS1	May 94/May 91	150.0	PS	Water	P
Palo Verde	Maricopa	1	Dec 85/Nov 80	1270.0	NP	Uranium	U
		2	Apr 86/Nov 81	1270.0	NP	Uranium	U
		3	Jun 87/May 82	1270.0	NP	Uranium	U
Salt River Proj Agri Imp Pwr Dist							
Coronado	Apache	CO3	May 91/May 82	410.9	ST	BIT	U
Tucson Electric Power Company							
Springerville	Apache	1	Jun 85/May 85	350.0	ST	SUB	U
		2	Jun 89/Jun 87	350.0	ST	SUB	U
		3	91/Jun 90	350.0	ST	SUB	P
California							
CA State Dept of Water Resources							
Bottle Rock	Lake	1	Mar 85/Jun 84	55.0	GE	GST	T
South Geysers	Sonoma	1	Sep 87/Mar 86	55.0	GE	GST	U
Alamo 1	Los Angeles	1	Sep 86/Sep 85	17.0	HY	Water	U
Escondido Mutual Wtr Co							
Bear Valley	San Diego	HC1	Apr 86/Sep 83	0.7	HY	Water	U
		HC2	Apr 86/Sep 83	0.7	HY	Water	U
Glendale Public Service Dept							
SCAMPP I	Los Angeles	IC4	Apr 86/Apr 86	0.6	IC	Refuse	P
SCAMPP II	Los Angeles	IC1	Jul 87/Jul 87	8.0	IC	Refuse	P
		IC2	Jul 87/Jul 87	8.0	IC	Refuse	P
Metropolitan Wtr Dist of So Calif							
Red Mountain	San Diego	1	Apr 85/Jul 84	5.9	PH	Water	U
Valley View	Orange	1	Jul 85/Sep 84	4.1	PH	Water	U
Skinner	Riverside	1	Jun 88/Jun 86	0.8	PH	Water	P
Nevada Irrigation District							
Scott Flat	Nevada	7P	Apr 85/Jan 85	1.0	HY	Water	U
Combie North	Nevada	6P	Oct 85/Jan 85	0.3	HY	Water	U
Bowman	Nevada	4N	Sep 86/Jan 86	3.0	HY	Water	U
Cascade III	Nevada	9N	Jul 87/Jun 85	0.4	PH	Water	P
Jackson Meadows	Nevada	8N	Jul 89/Jan 89	3.5	HY	Water	P
D-S	Nevada	10N	Jul 89/Jan 86	0.8	PH	Water	P
Cascade Flume	Nevada	11N	Jul 89/Jun 86	1.1	PH	Water	P
SH 12	Nevada	12N	Jan 90/Jan 87	0.3	PH	Water	P
SH 13	Nevada	13N	Jun 90/Jun 87	1.9	PH	Water	P
SH 14	Nevada	14N	Aug 90/Aug 87	0.3	PH	Water	P
SH 15	Nevada	15N	Jan 91/Jan 88	0.3	PH	Water	P
SH 16	Nevada	16N	Jun 91/Jun 88	0.2	PH	Water	P
Oakdale & South San Joaquin							
Sand Bar	Tuolumne	1	Jan 87/ 86	16.2	HY	Water	P
Goodwin	Tuolumne	1	86/ 86	5.0	HY	Water	P
Oroville Wyandotte Irrig Dist							
Rock Creek II	Plumas	NA1	Jan 89/Jan 89	35.0	HY	Water	P
French Creek	Butte	NA1	Jan 90/Jan 90	10.0	HY	Water	P
Pacific Gas & Electric Company							
Salt Springs	Amador	HY3	Feb 88/Jan 87	6.0	HY	Water	P
The Geysers	Sonoma	16	Dec 85/Mar 80	114.0	GE	GST	U
		19	Aug 91/Jul 86	55.0	GE	GST	P
		20	Dec 85/Dec 84	114.0	GE	GST	U
		21	Sep 88/Jul 86	140.0	GE	GST	P
		E22	Nov 90/Dec 88	140.0	GE	GST	P
		E23	Nov 91/Oct 89	140.0	GE	GST	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
California							
Pacific Gas & Electric Company							
		E24	Nov 92/Dec 90	140.0	GE	GST	P
West Point	Amador	HY2	Jan 88/Jan 87	7.0	HY	Water	P
Wise	Placer	2	Dec 86/Dec 86	2.7	HY	Water	P
Oak Flat	Plumas	1	Oct 85/Mar 83	0.1	HY	Water	U
Newcastle	Placer	1	Dec 86/May 84	11.0	HY	Water	U
Toadtown	Butte	1	Mar 86/Mar 86	1.7	HY	Water	P
Scott	Mendocino	1	May 86/Mar 86	3.0	HY	Water	P
Emigrant Gap	Placer	1	Feb 87/Jan 87	1.7	HY	Water	P
Christian Valley	Placer	1	Jan 87/Jan 86	0.9	HY	Water	P
Fiddler Green	Placer	1	Jan 87/Jan 86	1.0	HY	Water	P
Grizzly	Plumas	HY1	Dec 88/Nov 88	15.7	HY	Water	P
Bucks Lake Dam	Plumas	B	Nov 88/Nov 88	1.0	HY	Water	P
Mokelumne	Amador	HY1	Feb 88/Jan 87	1.0	HY	Water	P
Proj C	Unknown	HY1	Jan 89/Nov 85	3.0	HY	Water	P
Ph at Cresta Dam	Plumas	HY3	Mar 89/Jan 88	18.0	HY	Water	P
Ph at Rock Creek	Plumas	HY1	Sep 89/Jul 87	0.0	HY	Water	P
		HY3	Mar 89/Jan 88	36.0	HY	Water	P
Haas King R	Unknown	HY1	Dec 94/Jan 92	38.0	HY	Water	P
Several Hydro Proj	Unknown	1	Jan 88/Jan 88	3.0	HY	Water	P
		2	Jan 89/Mar 86	2.0	HY	Water	P
		3	Jan 90/Mar 91	14.0	HY	Water	P
		89	Jan 89/Jan 89	3.0	HY	Water	P
		90	Jan 90/Jan 90	3.0	HY	Water	P
		91	Jan 91/Jan 91	3.0	HY	Water	P
		92	Jan 92/	3.0	HY	Water	P
		93	Jan 93/	3.0	HY	Water	P
		94	Jan 94/	3.0	HY	Water	P
HYDRO	Butte	1	87/ 87	7.0	HY	Water	P
		2	87/ 87	5.0	HY	Water	P
HYDRO	Shasta	1	87/ 87	0.0	HY	Water	P
HYDRO	Shasta	1	87/ 87	5.0	HY	Water	P
Diablo Canyon	San Luis Obispo	1	Apr 85/May 72	1170.0	NP	Uranium	T
		2	Aug 85/May 72	1206.0	NP	Uranium	U
Sacramento Municipal Utility Dist							
Solar	Sacramento	2	Mar 86/Mar 86	1.0	SO	SUN	P
		3	Jan 88/Jan 88	5.0	SO	SUN	P
Camp Farwest	Placer	1	Feb 85/Feb 85	6.8	HY	Water	T
Jones Fork	El Dorado	1	Jun 85/Jan 86	10.0	HY	Water	U
SMUD Ct	Sacramento	1	Jun 85/Jan 87	49.0	GT	Nat Gas	U
Coldwater Creek	Sonoma	GE1	Apr 88/Apr 88	65.0	GE	GST	P
		GE2	Sep 88/Sep 88	65.0	GE	GST	P
Hetch Hetchy Water & Power							
Robert C Kirkwood	Tuolumne	3	Jul 88/Jul 87	33.8	HY	Water	P
Moccasin Low Head	Tuolumne	1	Jun 86/Aug 85	3.0	HY	Water	U
Oshaugnessy Low Head	Tuolumne	1	May 87/May 86	3.8	HY	Water	P
Southern California Edison Company							
Wind Turbine Test	Riverside	WT5	Mar 85/Mar 85	0.3	WM	Wind	T
Balsam Meadow	Fresno	1	Jan 88/Jun 85	200.0	PS	Water	U
Solar	San Bernardino	1	Jun 85/Oct 82	12.5	SO	SUN	T
Brawley	Tulare	1	Jul 85/Jul 80	10.0	GE	GST	T
Solar-Generic	Unknown	1	90/ 90	0.0	SO	SUN	P
Salton Sea	Imperial	1	Jun 87/Jul 82	10.0	GE	GST	T
Geothermal-Generic	Imperial	1	Jul 90/Jul 90	50.0	GE	GST	P
Cool Wat Coal Gas	San Bernardino	1	Jan 90/Jan 90	100.0	CT	SNG	U
Baker Dam	Los Angeles	HY2	Feb 85/Feb 85	0.1	PH	Water	T
		HY3	Feb 85/Feb 85	0.0	PH	Water	T
Pebbly Beach	Los Angeles	14	Oct 85/Apr 85	1.4	IC	FO2	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State / Company / Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status
California							
Turlock-Modesto Irrg Dists							
Don Pedro	Tuolumne	4	Jan 88/Jan 88	28.0	HY	Water	P
New Hogan	Calaveras	NA1	Jan 86/Jan 86	1.7	HY	Water	U
		NA2	Jan 86/Jan 86	0.8	HY	Water	U
Modesto Reservoir	Stanislaus	NA1	Jan 89/Jan 89	0.8	HY	Water	P
Gas Turbine	Stanislaus	1	Apr 86/Apr 86	25.0	GT	Nat Gas	U
		2	Apr 86/Apr 86	25.0	GT	Nat Gas	U
Yuba County Water Agency							
Fish Power Hydro	Yuba	HY1	Jun 86/Jun 86	0.2	HY	Water	P
Kings River Conservation Dist							
Dinkey Creek No.1	Fresno	1	May 89/May 88	60.0	HY	Water	P
		2	May 89/May 88	60.0	HY	Water	P
Colorado							
Colorado Springs, City of							
Ray D Nixon	El Paso	2	93/Nov 86	320.0	ST	Coal	P
Colorado-UTE Elec Assn, Inc							
Nucla	Montrose	ST4	Aug 87/Aug 87	73.3	ST	BIT	U
Denver, City & County of							
Roberts Tunnel	Park	NA2	Jul 87/Jul 87	5.5	PH	Water	P
Blue River	Summit	NA3	May 87/May 87	1.5	HY	Water	P
Foothills	Douglas	1	Mar 85/Mar 85	3.1	PH	Water	T
Strontia Springs	Douglas	NA1	Jan 86/Jan 86	1.0	HY	Water	U
Public Service Co of Colorado							
Pawnee	Morgan	2	May 91/Apr 86	520.0	ST	BIT	P
Connecticut							
Northeast Nuclear Energy Co							
Millstone	New London	3	May 86/May 79	1253.1	NP	Uranium	U
Florida							
Florida Power & Light Company							
Martin	Martin	3	94/ 85	887.0	ST	BIT	P
Jacksonville Electric Authority							
St Johns River	Duval	1	Apr 87/Dec 85	679.0	ST	BIT	U
		2	Oct 88/Jun 87	679.0	ST	BIT	U
Orlando Utilities Commission							
Stanton Energy	Orange	1	Jul 87/May 86	425.0	ST	BIT	U
Tallahassee, City of							
Jackson Bluff	Leon	1	Dec 85/Oct 83	4.1	HY	Water	U
		2	Dec 85/Oct 83	4.1	HY	Water	U
		3	Dec 85/Oct 83	2.8	HY	Water	U
Undesignated	Unknown	ST1	Mar 93/Mar 93	400.0	ST	BIT	P
Tampa Electric Company							
Big Bend	Hillsborough	ST4	Feb 85/Mar 85	486.0	ST	BIT	U
Georgia							
SO CO Georgia Power Co							
Vogtle	Burke	1	Mar 87/Feb 78	1215.0	NP	Uranium	U
		2	Sep 88/Feb 79	1215.0	NP	Uranium	U
Bartletts Ferry	Harris	5	Oct 85/Oct 85	54.0	HY	Water	U
		6	Nov 85/Nov 85	54.0	HY	Water	U

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State / Company / Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
Georgia							
SO CO:Georgia Power Co							
Goat Rock	Harris	7	Oct 88/Oct 88	33.5	HY	Water	P
		8	Nov 88/Nov 88	33.5	HY	Water	P
Rocky Mountain	Floyd	1	May 91/Jun 78	282.6	PS	Water	U
		2	Jan 91/Jun 78	282.6	PS	Water	U
		3	Mar 91/Jun 78	282.6	PS	Water	U
Scherer	Monroe	3	Jan 87/Feb 81	818.0	ST	BIT	U
		4	Feb 89/Feb 82	818.0	ST	BIT	U
Southeastern Power Adm							
Richard Russell	Elbert	1	Jan 85/Jul 82	75.0	HY	Water	T
		2	Jan 85/Jul 82	75.0	HY	Water	T
		3	Apr 85/Jul 82	75.0	HY	Water	U
		4	Jul 85/Jul 82	75.0	HY	Water	U
		5	Oct 89/Feb 86	75.0	PS	Water	U
		6	Jan 90/May 86	75.0	PS	Water	U
		7	Apr 90/Aug 86	75.0	PS	Water	U
		8	Jul 90/Nov 86	75.0	PS	Water	U
Hawaii							
Maui Electric Co, Ltd							
Maalaea	Maui	12	Jan 87/Jan 87	2.8	IC	FO2	P
		13	Jan 87/Jan 87	2.8	IC	FO2	P
		14	Oct 89/Oct 89	13.8	IC	FO2	P
Idaho							
Fall River Rural Elec Coop, Inc							
Island Park	Fremont	HY1	Dec 87/	6.0	HY	Water	P
New Felt	Teton	HC1	Jun 86/	3.0	HY	Water	P
Idaho Falls Elec Light Dept							
Gem State	Bingham	1	88/ 86	23.0	HY	Water	P
Idaho Power Company							
Swan Falls	Ada	P1	Jan 88/Jan 87	12.5	HY	Water	P
		P2	Jan 88/Jan 87	12.5	HY	Water	P
Illinois							
Commonwealth Edison Company							
Braidwood	Will	1	Oct 86/Oct 79	1224.9	NP	Uranium	U
		2	Dec 87/Oct 80	1224.9	NP	Uranium	U
Byron	Ogle	1	Apr 85/Oct 78	1224.9	NP	Uranium	U
		2	Oct 86/Oct 79	1224.9	NP	Uranium	U
Freeburg Mun Light Plant							
Freeburg	St Clair	IC6	Jun 85/Jun 85	2.6	IC	Nat Gas	U
Illinois Power Company							
Clinton	De Witt	1	Jul 86/Jun 80	984.9	NB	Uranium	U
Indiana							
Indianapolis Pwr & Lt Co							
Petersburg	Pike	4	Apr 86/Apr 79	574.2	ST	BIT	U
Northern Indiana Public Serv Co							
R M Schahfer	Jasper	18	Jun 86/Apr 85	393.0	ST	BIT	U
Southern Indiana Gas & Electric Co							
Broadway	Vanderburgh	3	Apr 91/Apr 89	90.0	GT	Nat Gas	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status[2]
Indiana							
Southern Indiana Gas & Electric Co							
		4	Apr 93/Apr 91	90.0	GT	Nat Gas	P
A B Brown	Posey	2	Apr 86/Apr 83	265.2	ST	Coal	U
AEP:Indiana & Michigan Electric Co							
Rockport (Proj 2601)	Spencer	2	Dec 88/Dec 82	1300.0	ST	BIT	U
Kansas							
Burlingame City of							
Burlingame	Osage	5	89/ 89	1.3	IC	FO2	P
Chanute, City of							
Chanute 2	Neosho	9	Jun 85/Dec 86	7.0	IC	Nat Gas	U
		10	Dec 85/Dec 86	7.0	IC	Nat Gas	U
		11	Dec 85/Dec 86	7.0	IC	Nat Gas	U
Empire District Electric Co							
Riverton	Cherokee	T10	Jun 88/Jun 88	80.0	GT	Nat Gas	P
Kansas Gas & Electric Co							
Wolf Creek	Coffey	1	Sep 85/May 81	1237.8	NP	Uranium	U
Kansas Power & Light Co							
Jeffrey Energy Centr	Pottawatomie	ST4	Jun 94/Jun 94	720.0	ST	SUB	P
Sabetha City of							
Sabetha	Nemaha	IC9	Jun 85/Jun 85	1.1	IC	FO2	U
Wellington, City of (KS)							
Wellington	Sumner	6	87/ 86	20.0	GT	Nat Gas	P
Kentucky							
Big Rivers Electric Corporation							
D B Wilson	Ohio	1	85/Jul 84	440.0	ST	BIT	T
East Kentucky Power Cooperative							
J K Smith	Clark	1	Oct 92/Jan 85	650.0	ST	BIT	U
Kentucky Utilities Company							
Hancock	Hancock	1	Oct 93/Oct 84	708.0	ST	BIT	P
Louisville Gas & Electric Co							
Trimble County	Trimble	1	Jun 88/Aug 81	543.6	ST	BIT	U
Louisiana							
Central Louisiana Elec Co, Inc							
Dolet Hills	De Soto	1	Feb 86/Feb 86	698.0	ST	LIG	U
Gulf States Utilities Company							
R S Nelson	Calcasieu	5	Dec 94/Feb 78	615.0	ST	SUB	P
River Bend	West Feliciana	1	Dec 85/Oct 79	997.6	NB	Uranium	U
MID SO:Louisiana Power & Light Co							
Wilton	St James	1	Jan 93/Jan 86	822.2	ST	SUB	P
Waterford	St Charles	3	Jun 85/Jan 77	1104.0	NP	Uranium	U
Maine							
Bangor Hydro Electric Co							
West Enfield	Penobscot	1	Nov 89/Nov 84	14.0	HY	Water	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
Maine							
Bangor Hydro Electric Co							
Basin Mills	Penobscot	1	Nov 94/Nov 91	40.0	HY	Water	P
River	Penobscot	1	Nov 90/Nov 90	8.0	HY	Water	P
Central Maine Power Company							
Hiram	Oxford	1	Jan 85/Apr 85	8.1	HY	Water	T
Lewiston Falls	Androscoggin	NA1	Mar 88/Apr 87	12.5	HY	Water	P
		NA2	Mar 88/Apr 87	12.5	HY	Water	P
Cataract	York	2	Apr 88/Apr 88	3.0	HY	Water	P
Maryland							
Baltimore Gas & Electric Co							
Brandon Shores	Anne Arundel	2	May 92/Apr 85	685.0	ST	BIT	U
Michigan							
Detroit Edison Company, The							
Enrico Fermi	Monroe	NB2	Apr 85/Feb 74	1100.0	NB	Uranium	U
Belle River	St Clair	ST2	Apr 85/Jan 80	775.0	ST	SUB	U
Traverse, City of El Lt & Pwr (MI)							
Boardman	Grand Traverse	HC1	Oct 85/Oct 85	1.0	HY	Water	U
Sabin	Grand Traverse	HC1	Oct 85/Oct 85	0.4	HY	Water	U
Wyandotte Dept of Mun Service							
Wyandotte	Wayne	7	Jan 86/Nov 84	32.0	ST	BIT	U
Zeeland Board of Public Works (MI)							
Zeeland	Ottawa	12	86/May 82	6.0	IC	Nat Gas	P
Norway Electric Light Dept							
Norway	Dickinson	3	Jan 85/Jan 85	0.9	HY	Water	U
		4	Jan 85/Jan 85	0.9	HY	Water	U
Minnesota							
Granite Falls, City of (MN)							
Granite Falls	Chippewa	HC3	Dec 85/Dec 85	0.7	HY	Water	U
Hibbing Public Utilities Comm							
Hibbing	St Louis	5	Feb 85/Jan 85	19.5	ST	SUB	U
Minnesota Power & Light Co							
Blanchard	Morrison	3	Mar 88/Mar 88	6.0	HY	Water	P
Northern States Power Co							
Riverside	Hennepin	7	Jun 87/Jul 86	137.0	ST	Coal	P
Sherburne County	Sherburne	3	Jan 88/May 81	800.0	ST	SUB	U
Mississippi							
MID SO:Mississippi Power & Light Co							
Grand Gulf	Claiborne	1	Jun 85/Jan 80	1250.0	NB	Uranium	U
		2	Apr 91/Jan 82	1250.0	NB	Uranium	U

[1] Generator nameplate when available. Otherwise, proposed summer capability.
[2] For unit status, P = planned but not under construction, U = under construction, and T = in testing.
Note: Where rating appears as 0.0, reported value is less than 50 kW.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
Missouri							
Associated Electric Coop, Inc							
Watson	Atchison	1	Jun 91/Jun 91	630.0	ST	SUB	P
Chillicothe Municipal Utilities							
Chillicothe	Livingston	GT1	Jun 86/Jul 86	40.0	GT	Nat Gas	U
		GT2	Jun 86/Jul 86	40.0	GT	Nat Gas	U
Empire District Electric Co							
Asbury	Jasper	2	Jun 86/Jun 86	16.5	ST	BIT	U
Fayette Water & Light Plant							
Fayette	Howard	GT1	Jul 85/Jul 85	4.0	GT	Nat Gas	U
		GT2	Jul 85/Jul 85	4.0	GT	Nat Gas	U
		GT3	Jul 85/Jul 85	3.0	GT	Nat Gas	U
		GT4	Jul 85/Jul 85	1.5	GT	Nat Gas	U
La Plata Electric Assn, the							
La Plata	Macon	6	89/ 89	1.8	IC	FO2	P
Missouri Public Service Co							
RG1 & 2	Henry	1	88/Jun 85	22.0	GT	Nat Gas	P
Greenwood Energy Ctr	Jackson	GT1	May 87/May 88	5.0	GT	FO2	P
		GT2	May 87/May 88	5.0	GT	FO2	P
		GT3	May 87/May 88	5.0	GT	FO2	P
		GT4	May 87/May 88	5.0	GT	FO2	P
Union Electric Company (MO)							
Callaway	Callaway	1	Jan 85/Oct 81	1192.0	NP	Uranium	T
Montana							
Montana Power Company, The							
Colstrip	Rosebud	4	Apr 86/Jul 79	778.0	ST	BIT	U
Nebraska							
Central Nebraska Pub Pwr & Irr Dist							
Kingsley	Keith	1	Jan 85/	50.0	HY	Water	T
Nevada							
Nevada Power Company							
White Pine Co	White Pine	1	Jun 91/Jun 89	750.0	ST	Coal	P
		2	Jun 92/Jun 90	750.0	ST	Coal	P
Sierra Pacific Power Company							
North Valmy	Humboldt	2	Jun 85/Oct 83	275.0	ST	Coal	U
New Hampshire							
Public Service Co of New Hampshire							
Seabrook	Rockingham	1	Oct 86/Nov 79	1150.0	NP	Uranium	U
New Jersey							
Public Service Elec and Gas Co							
Hope Creek	Salem	1	Dec 86/May 75	1170.0	NB	Uranium	U
New Mexico							
Farmington, City of Elec Util Sys							
Navajo	San Juan	1	Jun 87/Jun 87	15.0	HY	Water	P
		2	Jun 87/Jun 87	15.0	HY	Water	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
New Mexico							
Plains Elec Gen & Trans Coop, Inc							
Escalante	McKinley	2	Jan 90/Jan 90	233.0	ST	SUB	P
New York							
Central Hudson Gas & Elec Corp							
High Falls	Ulster	1	Oct 86/Oct 86	3.2	HY	Water	P
Hydro Development Group Inc.							
Dexter	Jefferson	5	Jun 85/Apr 84	0.3	HY	Water	U
		6	Jun 85/Apr 84	0.3	HY	Water	U
Lawrence Park Lt & Pwr							
Bronxville	Westchester	IC5	Jun 85/	0.5	IC	FO2	U
		IC6	Jun 85/	0.3	IC	FO2	U
Long Island Lighting Company							
Shoreham	Suffolk	NB1	Oct 85/May 75	849.5	NB	Uranium	U
Mitchel Gardens	Nassau	1	May 88/Nov 80	21.6	ST	Refuse	U
		2	May 88/Nov 80	21.6	ST	Refuse	U
Moreau Manufacturing Corporation							
Feeder Dam	Saratoga	6	Jun 93/Nov 89	1.5	HY	Water	P
Niagara Mohawk Power Corp							
Fulton	Oswego	N1	Jun 91/Nov 91	1.4	HY	Water	P
South Glen Falls	Washington	N1	Jun 90/Nov 89	12.0	HY	Water	P
High Dam	Oswego	5	Jan 90/Nov 88	2.0	HY	Water	P
Mechanicville	Saratoga	N1	Jun 91/May 84	12.0	HY	Water	U
Minetto	Oswego	N1	Jan 89/Nov 89	1.8	HY	Water	P
Nine Mile Point	Oswego	2	Nov 86/Nov 83	1166.0	NB	Uranium	U
Oswegatchie	St Lawrence	N1	Jun 92/Nov 90	1.4	HY	Water	P
Oswego Falls West	Oswego	6	Jan 90/Nov 87	5.5	HY	Water	P
Sugar Island	St Lawrence	3	Jan 92/Nov 90	2.4	HY	Water	P
Trenton Falls	Oneida	9	Jan 88/Nov 83	10.0	HY	Water	P
Varick	Oswego	1	Jan 90/Nov 90	4.6	HY	Water	P
Hudson Falls	Albany	A	Jun 91/Nov 85	36.1	HY	Water	P
Power Authority of the State of NY							
Bronx Resource Rcvry	Bronx	1	Dec 92/Jun 90	42.0	ST	Refuse	P
Delta	Oneida	NA1	Mar 88/Feb 86	3.4	HY	Water	P
		NA2	Mar 88/Feb 86	3.4	HY	Water	P
Hinckley	Oneida	NA1	Mar 86/Sep 85	9.0	HY	Water	U
		NA2	Mar 86/Sep 85	9.0	HY	Water	U
Waterford	Rensselaer	NA1	Jan 88/Jun 85	3.0	HY	Water	P
		NA2	Jan 88/Jun 85	3.0	HY	Water	P
Crescent	Albany	NA1	Jun 89/Jan 88	11.6	HY	Water	P
		NA2	Jun 89/Jan 88	11.6	HY	Water	P
Vischer Ferry	Schenectady	1	Jun 89/Sep 86	11.6	HY	Water	P
Lewiston	Niagara	13	Jul 90/Jul 90	20.0	PS	Water	P
		14	Jul 90/Jul 90	20.0	PS	Water	P
		15	Jul 90/Jul 90	20.0	PS	Water	P
Moses Niagara	Niagara	14	Jul 90/Jul 90	225.0	HY	Water	P
		15	Jul 90/Jul 90	225.0	HY	Water	P
Prattsville	Greene	NA1	Sep 89/May 87	250.0	PS	Water	P
		NA2	Sep 89/May 87	250.0	PS	Water	P
		NA3	Sep 89/May 87	250.0	PS	Water	P
		NA4	Sep 89/May 87	250.0	PS	Water	P
Skaneateles City of							
Skaneateles	Onondaga	2	Oct 85/Oct 84	0.5	IC	FO2	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status
North Carolina							
Carolina Power & Light Co							
Harris	Wake	1	Sep 86/Mar 77	950.0	NP	Uranium	U
Mayo	Person	2	Mar 91/Mar 80	735.8	ST	BIT	U
North Dakota							
Basin Electric Pwr Coop, Inc							
Antelope Valley	Mercer	2	Jun 86/May 83	438.0	ST	LIG	U
Montana-Dakota Utilities Co							
Proposed Comb Turb	Williams	1	May 90/May 90	39.3	GT	Nat Gas	P
Ohio							
Cincinnati Gas & Electric Co							
W H Zimmer	Clermont	ST1	Jun 91/Jun 91	1300.0	ST	BIT	U
Cleveland Elec Illum Co, The							
Perry	Lake	1	Dec 85/Apr 79	1205.0	NB	Uranium	U
Orrville Public Utilities							
Pike Island	Belmont	1	87/ 87	47.5	HY	Water	P
Oklahoma							
Grand River Dam Authority							
GRDA	Mayes	2	Jan 86/ 85	520.0	ST	BIT	U
Oklahoma Gas & Electric Co							
Undesignated	Noble	1	May 89/May 89	0.1	GT	FO6	P
		2	May 90/May 90	0.2	GT	FO6	P
		3	May 91/May 91	0.2	GT	FO6	P
		4	May 92/May 93	0.2	GT	FO6	P
Sooner	Noble	3	May 93/May 81	569.0	ST	SUB	P
Cen & SW Public Serv Co of Oklahoma							
NA1	Unknown	NA1	Dec 92/Dec 92	75.0	GT	Nat Gas	P
		NA2	Dec 92/Dec 92	75.0	GT	Nat Gas	P
		NA3	Dec 92/Dec 92	75.0	GT	Nat Gas	P
		NA4	Dec 92/Dec 92	75.0	GT	Nat Gas	P
		NA5	Dec 94/Dec 94	75.0	GT	Nat Gas	P
Pennsylvania							
Duquesne Light Company							
Beaver Valley	Beaver	2	Dec 87/Jan 78	923.4	NP	Uranium	U
Pennsylvania Power & Light Co							
Susquehanna	Luzerne	2	Feb 85/Nov 81	1152.0	NB	Uranium	T
Philadelphia Electric Company							
Limerick	Montgomery	1	Aug 85/May 75	1098.3	NB	Uranium	T
		2	Jul 90/May 77	1098.3	NB	Uranium	U
Safe Harbor Water Power Corp							
Safe Harbor	Lancaster	8	Mar 85/Mar 85	37.5	HY	Water	U
		9	Dec 85/Dec 85	37.5	HY	Water	U
		10	Jun 85/Jun 85	37.5	HY	Water	U
		11	Mar 86/Mar 86	37.5	HY	Water	U
		12	Sep 85/Sep 85	37.5	HY	Water	U

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State / Company / Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status[1]
South Carolina							
Duke Power Company							
Catawba	York	1	Jun 85/Mar 79	1205.1	NP	Uranium	U
		2	Jun 87/Mar 80	1205.1	NP	Uranium	U
South Carolina Electric & Gas Co							
NA1	Unknown	ST1	May 93/May 93	300.0	ST	BIT	P
NA2	Unknown	CT1	May 90/May 90	108.0	CT	FO2	P
NA3	Unknown	CT2	91/ 91	108.0	CT	FO2	P
South Carolina Public Service Auth							
Cross	Berkeley	1	May 91/May 85	557.3	ST	BIT	P
St Stephen	Berkeley	1	Mar 85/May 83	28.0	HY	Water	U
		2	Mar 85/May 83	28.0	HY	Water	U
		3	Mar 85/May 83	28.0	HY	Water	U
Tennessee							
Tennessee Valley Authority							
Watts Bar	Rhea	NP1	Dec 85/Oct 76	1270.0	NP	Uranium	U
		NP2	May 87/Apr 77	1270.0	NP	Uranium	U
Texas							
Texas Util/Texas Utilities Elec Co							
Morgan Creek	Mitchell	NA1	Mar 90/Mar 90	400.0	GT	Nat Gas	P
Permian Basin	Ward	NA1	Mar 88/Mar 88	190.0	GT	Nat Gas	P
		NA2	Mar 90/Mar 90	110.0	GT	Nat Gas	P
Comanche Peak	Somervell	1	Jan 86/Jan 80	1215.0	NP	Uranium	U
		2	Jul 87/Jan 82	1215.0	NP	Uranium	U
Martin Lake	Rusk	4	Jan 94/Dec 82	793.3	ST	LIG	U
Forest Grove	Henderson	1	Feb 93/Dec 78	795.8	ST	LIG	U
Twin Oak	Robertson	1	Jan 91/Jan 81	800.9	ST	LIG	U
		2	Jan 92/Jan 82	800.9	ST	LIG	U
De Cordova	Hood	NA1	Mar 90/Mar 90	260.0	GT	Nat Gas	P
Austin Electric Dept							
NA 1	Unknown	ST1	Jan 93/Jan 93	400.0	ST	Coal	P
NA 2	Unknown	ST1	Apr 98/Apr 88	20.0	ST	Refuse	P
NA 3	Unknown	HC1	Jan 87/Jan 87	3.1	HY	Water	P
NA 4	Unknown	GT1	Mar 87/Mar 87	100.0	GT	Nat Gas	P
Brazos River Authority							
Granbury	Hood	HY1	Jan 89/Jan 89	20.0	HY	Water	P
South Bend	Young	HY1	Jan 94/Jan 94	9.0	HY	Water	P
Cen & Sw Central Power & Light Co							
Walker A	Walker	1	Dec 94/Dec 90	719.0	ST	LIG	P
Coleto Creek	Goliad	2	Dec 93/Dec 88	726.3	ST	BIT	P
Denton Municipal Utilities							
Lewisville	Denton	1	87/ 86	1.0	HY	Water	P
		2	87/ 86	1.0	HY	Water	P
Roberts	Denton	1	88/ 88	1.0	HY	Water	P
Guadalupe-Blanco River Auth							
Canyon	Comal	1	Jun 87/Jul 86	3.0	HY	Water	P
		2	Jun 87/Jul 86	3.0	HY	Water	P
Houston Lighting & Power Co							
Limestone	Limestone	1	Dec 85/Apr 85	813.4	ST	LIG	U
		2	Dec 86/Apr 86	813.4	ST	LIG	U
Malakoff	Henderson	1	Apr 90/Mar 87	726.8	ST	LIG	P
		2	Apr 91/Mar 88	726.8	ST	LIG	P

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State / Company / Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity (MW)	Unit Type	Energy Source	Unit Status
Texas							
Houston Lighting & Power Co							
South Texas	Matagorda	1	Jun 87/Oct 80	1250.0	NP	Uranium	U
		2	Jun 89/Mar 82	1250.0	NP	Uranium	U
Lower Colorado River Authority							
Fayette Power Proj	Fayette	3	Jun 88/Jun 88	430.0	ST	LIG	U
		4	Jun 91/May 89	430.0	ST	LIG	P
San Antonio Public Service Bd							
J T Deely	Bexar	ST3	Jun 93/Jun 93	546.0	ST	LIG	P
South Texas Elec Coop, Inc							
San Miguel	Atascosa	2	Jan 93/May 89	400.0	ST	LIG	P
Cen & SW Southwestern Elec Power Co							
Pirkey	Harrison	1	Jan 85/Feb 85	719.0	ST	LIG	U
Southwestern Public Service Co							
South Plains Station	Lubbock	1	Jun 90/Jun 87	600.0	ST	BIT	P
Tolk Station	Lamb	2	Jun 85/Jun 85	568.0	ST	BIT	T
Cen & SW West Texas Utilities Co							
Oklaunion	Wilbarger	1	Dec 86/Dec 86	720.0	ST	Coal	U
San Miguel Electric Coop							
San Miguel	Atascosa	ST2	Jun 92/	450.0	ST	LIG	P
Utah							
Logan City Municipal Elect Lght Plt							
Logan Hydro	Cache	2	Aug 86/Dec 85	6.0	HY	Water	U
Los Angeles Dept of Water and Power							
Intermountain	Millard	1	Jul 86/Nov 83	761.0	ST	BIT	U
		2	Jul 87/Nov 84	761.0	ST	BIT	U
Weber Basin Water Conservancy Dist							
West Gateway	Davis	1	Dec 88/Dec 88	4.0	HY	Water	P
Desret Generating & Transmisson							
Bonanza	Uintah	1	Sep 85/Dec 84	400.0	ST	BIT	U
Vermont							
Central Vermont Pub Serv Corp							
Frog Hollow	Addison	1	Dec 87/Dec 87	1.8	HY	Water	P
Morrisville Water & Light Dept							
Garfield	Lamoille	HC1	94/ 94	1.3	HY	Water	P
		HC2	94/ 94	1.3	HY	Water	P
Swanton Electric Department							
High Gate Falls	Franklin	4	Dec 86/Dec 86	4.5	HY	Water	P
Vermont Electric Cooperative							
North Hartland	Windsor	1	Apr 85/Dec 84	4.0	HY	Water	U
Virginia							
Virginia Electric & Power Co							
Bath County	Bath	1	May 85/Mar 79	350.0	PS	Water	U
		2	Jun 85/Mar 79	350.0	PS	Water	U
		3	Jun 85/Mar 79	350.0	PS	Water	U
		4	Oct 85/Mar 79	350.0	PS	Water	U

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 12. Projected Units by State, Company, and Plant, 1985-1994, as of December 1984—Continued

State Company Plant	County	Unit Number	Scheduled Completion Current/Original	Capacity[1] (MW)	Unit Type	Energy Source	Unit Status[2]
Virginia							
Virginia Electric & Power Co							
		5	Nov 85/Mar 80	350.0	PS	Water	U
		6	Dec 85/Mar 80	350.0	PS	Water	U
Washington							
Grant County P U D No 2							
Quincy Chute	Grant	1	Jun 85/May 84	9.4	HY	Water	T
Pend Oreille County P U D No 1							
Sullivan Creek	Pend Oreille	1	89/ 89	8.0	HY	Water	P
		2	89/ 89	8.0	HY	Water	P
Seattle Dept of Lighting							
South Fork Tolt	King	1	Nov 89/Nov 85	15.0	HY	Water	P
Boundary	Pend Oreille	55	Nov 85/Nov 85	199.5	HY	Water	U
		56	Mar 86/Mar 86	196.5	HY	Water	U
West Virginia							
APS:West Penn Power Co							
Coal	Unknown	1	Sep 92/Mar 83	300.0	ST	BIT	P
Wisconsin							
Kaukauna, City of Elec & Wtr Depts							
Combined Locks	Outagamie	HC1	Jun 87/Jun 87	3.5	HY	Water	P
		HC2	Jun 87/Jun 87	3.5	HY	Water	P
Madison Gas & Electric Co (WI)							
Sprecher	Dane	1	Feb 85/Feb 85	0.0	WM	Wind	T
Manitowoc Public Utilities							
Manitowoc	Manitowoc	IC1	Jun 85/Jun 85	5.3	IC	Nat Gas	U
		IC2	Jun 85/Jun 85	5.3	IC	Nat Gas	U
Northern States Power Co							
Jim Falls	Chippewa	4	May 88/Jan 88	36.0	HY	Water	P
Oconto Electric Coop							
Stiles	Oconto	3	Mar 88/Aug 88	0.4	HY	Water	P
Wisconsin Electric Power Co							
Pleasant Prairie	Kenosha	2	Jul 85/Apr 82	616.6	ST	SUB	U
Wisconsin Power & Light Co							
Edgewater	Rock	5	Mar 85/Jan 81	380.0	ST	Coal	U
Wisconsin Public Service Corp							
Wood/Solid Waste	Unknown	NA1	Mar 90/	10.0	ST	Wood	P
Hydro	Unknown	NA1	Mar 87/	1.0	HY	Water	P
		NA2	Mar 91/	1.0	HY	Water	P
Cogeneration	Unknown	NA1	Mar 88/	12.0	ST	BIT	P
		NA2	Mar 94/	12.0	ST	BIT	P
Wood-Solid Waste	Unknown	NA1	Mar 90/	10.0	ST	Wood	P
CO-GENERATION	Unknown	1	Dec 87/Dec 87	12.0	ST	Coal	P
HYDRO	Unknown	1	Dec 87/Dec 87	1.0	HY	Water	P

[1] Generator nameplate when available. Otherwise, proposed summer capability.
[2] For unit status, P = planned but not under construction, U = under construction, and T = in testing.
Note: Where rating appears as 0.0, reported value is less than 50 kW.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Projected Units

Table 13. United States Summary of Planned Nameplate Capacity Retirements by Energy Source, as of December 1984

Year	U.S. Total		Coal		Petroleum		Gas		Water		Nuclear		Other	
	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.	Megawatts	No.
1985-1994	16,525	458	2,217	46	6,782	210	7,063	161	80	33	269	2	114	6
1985	2,407	79	565	13	1,235	34	281	24	53	4	269	2	4	2
1986	888	31	29	3	429	11	430	14	1	3	-	-	-	-
1987	927	46	125	1	561	24	230	10	11	11	-	-	-	-
1988	1,428	39	33	3	547	13	844	21	5	2	-	-	-	-
1989	939	38	240	3	183	9	508	16	8	10	-	-	-	-
1990	2,077	71	564	11	779	39	623	16	1	1	-	-	110	4
1991	1,618	46	203	4	649	26	766	16	-	-	-	-	-	-
1992	2,317	38	160	2	512	14	1,645	22	-	-	-	-	-	-
1993	1,883	32	-	-	1,357	25	526	7	-	-	-	-	-	-
1994	2,040	38	299	6	530	15	1,208	15	2	2	-	-	-	-

Notes: Totals include 50 States and the District of Columbia. Totals may not equal the sum of components because of independent rounding.
Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Jointly Owned Units

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Jointly Owned Units

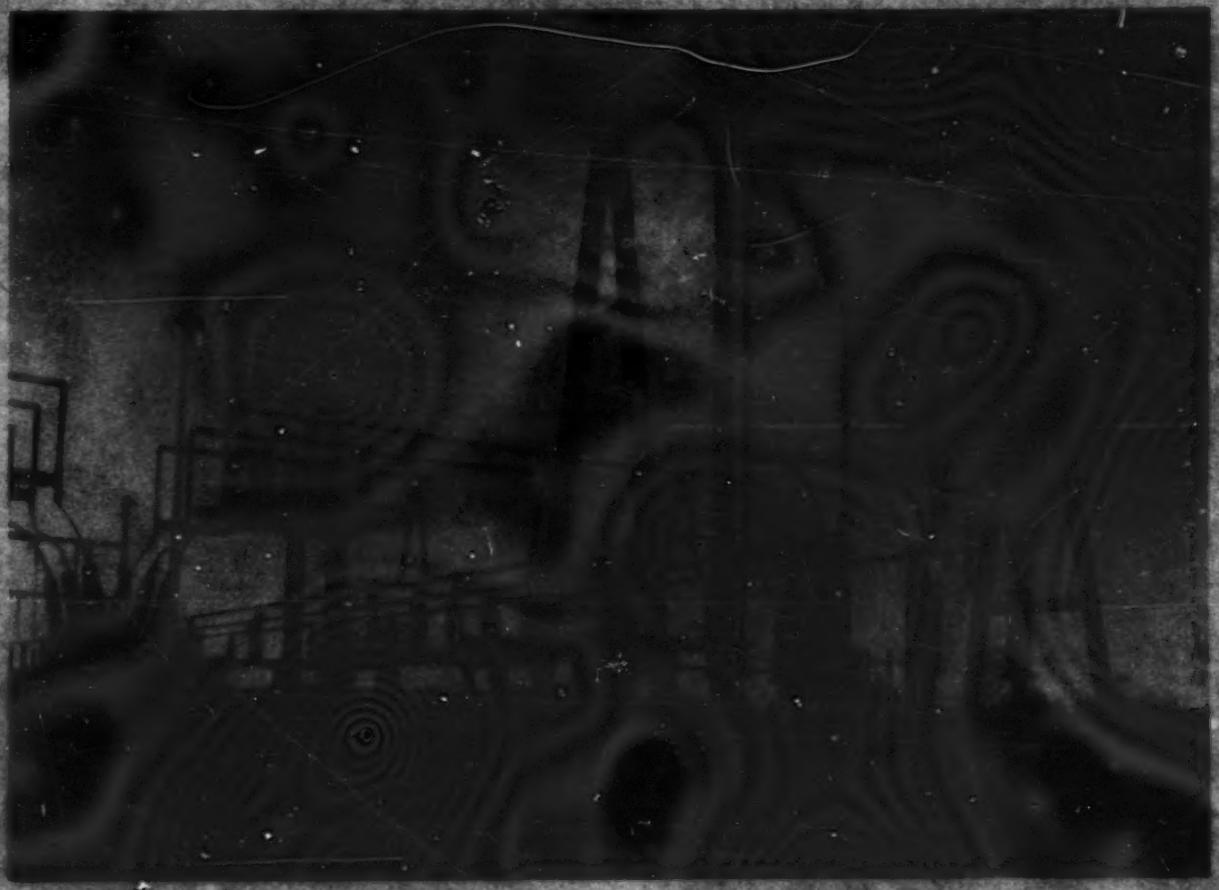
Data included in this publication indicate that a growing number of utilities are choosing joint ownership as a means of financing new units. Joint ownership provides utility companies with a means of sharing the financial costs and risks during the current period of unusually high interest rates and high construction costs. Joint ownership also permits utilities to acquire generating capacity sized to their particular needs, while enabling each participating utility to enjoy the cost benefits associated with the economies of scale provided by larger units.

If acting independently, each member might have to install units sized to its own requirements. Because of the smaller scale, these units would be relatively more expensive, since operating costs and costs per unit of installed capacity decrease as unit size increases. The other alternative available to utilities is to invest in a unit larger than warranted by system requirements. However, this could result in a large capital investment tied up in underutilized capacity.

Of the 23 coal-fired and nuclear-powered generating units placed in commercial operation in 1984, 6 are jointly owned. Of the 120 coal-fired and nuclear-powered generating units projected for commercial operation between 1985 and 1994, 48 are jointly owned.

An alternative to joint ownership is to lessen the financial requirements for constructing electric generating units. Utilities can accomplish this by negotiating the sale of all (or a portion of) a plant's output through a long-term contract. Selling portions of projects allow utilities that have not correctly predicted future load growth to sell underutilized capacity.

Table 14 contains the State and plant operator, the shares of ownership for projected electric generating units, and the electric generating units that started commercial operation in 1984.



Joint ownership permits utilities to acquire generating capacity sized to their particular needs and enables each participating utility to enjoy cost benefits associated with the economies of scale provided by larger units.

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Jointly Owned Units

Table 14. Jointly Owned Units by State, Company, and Plant

State Company Plant (County)	Unit No.	Capacity (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
Arizona								
Arizona Public Service Company								
Palo Verde (Maricopa)	1	1270.0	NP	Uranium	PROJ	1985		
	2	1270.0	NP	Uranium	PROJ	1986		
	3	1270.0	NP	Uranium	PROJ	1987		
							Arizona Public Service Company	29.1
							Salt River Proj Agri Imp Pwr Dist	17.5
							Southern California Edison Company	15.8
							El Paso Electric Company	15.8
							Public Service Co of New Mexico	10.2
							Southern California Public Pwr Auth	5.9
							Los Angeles Dept of Water and Power	5.7
Arkansas								
MID SO Arkansas Power & Light Co								
Independence (Independence)	2	800.0	ST	SUB	EXIST	1984		
							Arkansas Electric Coop Corp	35.0
							MID SO Arkansas Power & Light Co	31.5
							MID SO Mississippi Power & Light Co	25.0
							Jonesboro, Town of	5.0
							Conway Corporation	2.0
							West Memphis, City of	1.0
							Osceola Power & Light	0.5
California								
Southern California Edison Company								
Solar (San Bernardino)	1	12.5	SO	SUN	PROJ	1985		
							Southern California Edison Company	80.0
							Los Angeles Dept of Water and Power	20.0
San Onofre (San Diego)	3	1127.0	NP	Uranium	EXIST	1984		
							Southern California Edison Company	75.1
							San Diego Gas & Electric Company	20.0
							Anaheim, City of Public Utilities	3.1
							Riverside, City of Public Utilities	1.8
Brawley (Tulare)	1	10.0	GE	GST	PROJ	1985		
							Southern California Edison Company	50.0
							Los Angeles Dept of Water and Power	41.0
							Burbank Public Service Department	3.0
							Pasadena, City of Wtr & Pwr Dept	3.0
							Riverside, City of Public Utilities	3.0
Connecticut								
Northeast Nuclear Energy Co								
Millstone (New London)	3	1253.1	NP	Uranium	PROJ	1986		
							NE Util Conn Light & Power Co	52.6
							NE Util Western Mass Electric Co	12.2
							N Eng Elec New England Power Co	12.2
							Several Small Munis and Coops	10.5
							Mass Mun Wholesale Electric Company	4.8
							East Util Montaup Electric Co	4.0
							United Illuminating Company, the	3.7
Florida								
Jacksonville Electric Authority								
St Johns River (Duval)	1	679.0	ST	BIT	PROJ	1987		
	2	679.0	ST	BIT	PROJ	1988		
							Jacksonville Electric Authority	50.0
							Florida Power & Light Company	50.0
Orlando Utilities Commission								
Stanton Energy (Orange)	1	425.0	ST	BIT	PROJ	1987		
							Orlando Utilities Commission	80.4
							Florida Municipal Pwr Agency	14.8
							Kissimmee, City of	4.8

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report"

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Jointly Owned Units

Table 14. Jointly Owned Units by State, Company, and Plant—Continued

State Company Plant (County)	Unit No.	Capacity (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
Georgia								
SO CO:Georgia Power Co								
Vogtle (Burke)	1	1215.0	NP	Uranium	PROJ	1987		
	2	1215.0	NP	Uranium	PROJ	1988		
							SO CO:Georgia Power Co	45.7
							Oglethorpe Power Corporation	30.0
							Municipal Elec Authority of Georgia	22.7
							Dalton, City of (GA)	1.6
Scherer (Monroe)	2	891.0	ST	BIT	EXIST	1984		
							Oglethorpe Power Corporation	60.0
							Municipal Elec Authority of Georgia	30.2
							SO CO:Georgia Power Co	8.4
							Dalton, City of (GA)	1.4
Illinois								
Illinois Power Company								
Clinton (De Witt)	1	984.9	NB	Uranium	PROJ	1986		
							Illinois Power Company	80.0
							Soyland Power Coop	10.5
							Western Illinois Pwr Coop, Inc	9.5
Kansas								
Kansas Gas & Electric Co								
Wolf Creek (Coffey)	1	1237.8	NP	Uranium	PROJ	1985		
							Kansas Gas & Electric Co	47.0
							Kansas City Power & Light Co	47.0
							Several Small Munis and Coops	6.0
Louisiana								
Central Louisiana Elec Co, Inc								
Dolet Hills (De Soto)	1	698.0	ST	LIG	PROJ	1986		
							Cen & SW Southwestern Elec Power Co	50.0
							Central Louisiana Elec Co, Inc	50.0
Gulf States Utilities Company								
River Bend (West Feliciana)	1	997.6	NB	Uranium	PROJ	1985		
							Gulf States Utilities Company	70.0
							Cajun Elec Power Coop, Inc	30.0
Michigan								
Detroit Edison Company, The								
Enrico Fermi (Monroe)	NB2	1100.0	NB	Uranium	PROJ	1985		
							Detroit Edison Company, The	83.0
							Wolverine Power Corporation	17.0
Belle River (St Clair)	ST1	775.0	ST	SUB	EXIST	1984		
							Detroit Edison Company, The	63.0
							Michigan Public Power Agency	37.0
Minnesota								
Northern States Power Co								
Sherburne County (Sherburne)	3	800.0	ST	SUB	PROJ	1988		
							Northern States Power Co	59.0
							Several Small Munis and Coops	41.0
Mississippi								
MID SO:Mississippi Power & Light Co								
Grand Gulf (Claiborne)	1	1250.0	NB	Uranium	PROJ	1985		
	2	1250.0	NB	Uranium	PROJ	1991		
							MID SO/Middle South Utilities, Inc	90.0
							MID SO:Mississippi Power & Light Co	10.0

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 14. Jointly Owned Units by State, Company, and Plant—Continued

State Company Plant (County)	Unit No.	Capacity (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
Montana								
Montana Power Company, The								
Colstrip (Rosebud)	3	778.0	ST	BIT	EXIST	1984		
	4	778.0	ST	BIT	PROJ	1986		
							Montana Power Company, The	30.0
							Puget Sound Power & Light Company	25.0
							Portland General Electric Company	20.0
							Washington Wtr Pwr Co, The	15.0
							Pacific Power & Light Company	10.0
Nevada								
Nevada Power Company								
White Pine Co (White Pine)	1	750.0	ST	Coal	PROJ	1991		
	2	750.0	ST	Coal	PROJ	1992		
							Los Angeles Dept of Water and Power	39.1
							Nevada Power Company	25.0
							Several Small Munis and Coops	16.7
							Sierra Pacific Power Company	10.0
							Anaheim, City of Public Utilities	3.6
							Mt Wheeler Power, Inc	3.0
							Riverside, City of Public Utilities	2.6
Sierra Pacific Power Company								
North Valmy (Humboldt)	2	275.0	ST	Coal	PROJ	1985		
							Idaho Power Company	50.0
							Sierra Pacific Power Company	50.0
New Hampshire								
Public Service Co of New Hampshire								
Seabrook (Rockingham)	1	1150.0	NP	Uranium	PROJ	1986		
							Public Service Co of New Hampshire	35.6
							United Illuminating Company, the	17.5
							Several Small Munis and Coops	15.2
							Mass Mun Wholesale Electric Company	11.6
							N Eng Elec:New England Power Co	10.0
							Central Maine Power Company	6.0
							NE Util:Conn Light & Power Co	4.1
New Jersey								
Public Service Elec and Gas Co								
Hope Creek (Salem)	1	1170.0	NB	Uranium	PROJ	1986		
							Public Service Elec and Gas Co	95.0
							Atlantic City Electric Co	5.0
New York								
Hydro Development Group Inc.								
Copenhagen (Lewis)	1	1.5	HY	Water	EXIST	1984		
	2	1.5	HY	Water	EXIST	1984		
Niagara Mohawk Power Corp								
Nine Mile Point (Oswego)	2	1166.0	NB	Uranium	PROJ	1986		
							Niagara Mohawk Power Corp	41.0
							New York State Elec & Gas Corp	18.0
							Long Island Lighting Company	18.0
							Rochester Gas & Elec Corp (NY)	14.0
							Central Hudson Gas & Elec Corp	9.0
North Carolina								
Carolina Power & Light Co								
Harris (Wake)	1	950.0	NP	Uranium	PROJ	1986		
							Carolina Power & Light Co	83.8
							N C Eastern Municipal Pwr Agency	16.2

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Jointly Owned Units

Table 14. Jointly Owned Units by State, Company, and Plant—Continued

State Company Plant (County)	Unit No.	Capacity (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
North Carolina								
Mayo (Person)	2	735.8	ST	BIT	PROJ	1991		
							Carolina Power & Light Co	83.8
							N C Eastern Municipal Pwr Agency	16.2
North Dakota								
Basin Electric Pwr Coop, Inc								
Antelope Valley (Mercer)	2	438.0	ST	LIG	PROJ	1986		
							Basin Electric Pwr Coop, Inc	71.2
							American Natural Gas	19.6
							Montana-Dakota Utilities Co	9.2
Ohio								
Cincinnati Gas & Electric Co								
W H Zimmer (Clermont)	ST1	1300.0	ST	BIT	PROJ	1991		
							Cincinnati Gas & Electric Co	46.5
							Dayton Power & Light Company, the	28.1
							Columbus & Southern Ohio Elec Co	25.4
Cleveland Elec Illum Co, The								
Perry (Lake)	1	1205.0	NB	Uranium	PROJ	1985		
							Ohio Edison Company	35.2
							Cleveland Elec Illum Co, The	31.2
							Toledo Edison Company	19.9
							Duquesne Light Company	13.7
Oklahoma								
Grand River Dam Authority								
GRDA (Mayes)	2	520.0	ST	BIT	PROJ	1986		
							Grand River Dam Authority	62.0
							Kamo Electric Coop, Inc	38.0
Pennsylvania								
Duquesne Light Company								
Beaver Valley (Beaver)	2	923.4	NP	Uranium	PROJ	1987		
							Ohio Edison Company	41.9
							Cleveland Elec Illum Co, The	24.5
							Toledo Edison Company	19.9
							Duquesne Light Company	13.7
Pennsylvania Power & Light Co								
Susquehanna (Luzerne)	2	1152.0	NB	Uranium	PROJ	1985		
							Pennsylvania Power & Light Co	90.0
							Allegheny Electric Coop	10.0
South Carolina								
Duke Power Company								
Catawba (York)	1	1205.1	NP	Uranium	PROJ	1985		
							North Carolina Elec Memb Corp	56.2
							Duke Power Company	25.0
							Saluda River Elec Coop, Inc	18.8
	2	1205.1	NP	Uranium	PROJ	1987		
							North Carolina Mun Power Agency	75.0
							Duke Power Company	25.0
South Carolina Electric & Gas Co								
V C Summer (Fairfield)	1	953.9	NP	Uranium	EXIST	1984		
							South Carolina Electric & Gas Co	67.0
							South Carolina Public Service Auth	33.0

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Jointly Owned Units

Table 14. Jointly Owned Units by State, Company, and Plant—Continued

State Company Plant (County)	Unit No.	Capacity[1] (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
Texas								
Texas Utl/Texas Utilities Elec Co								
Comanche Peak (Somervell)	1	1215.0	NP	Uranium	PROJ	1986		
	2	1215.0	NP	Uranium	PROJ	1987		
							Texas Utl/Texas Utilities Elec Co	87.8
							Several Small Munis and Coops	12.2
Twin Oak (Robertson)	1	800.9	ST	LIG	PROJ	1991		
	2	800.9	ST	LIG	PROJ	1992		
							Texas Utl/Texas Utilities Elec Co	75.0
							Alcoa Generating Corporation	25.0
Cen & Sw Central Power & Light Co								
Walker A (Walker)	1	719.0	ST	LIG	PROJ	1994		
							Cen & SW Public Serv Co of Oklahoma	41.4
							Cen & Sw Central Power & Light Co	26.2
							Cen & SW West Texas Utilities Co	16.6
							Cen & SW Southwestern Elec Power Co	15.8
Coleto Creek (Goliad)	2	726.3	ST	BIT	PROJ	1993		
							Cen & Sw Central Power & Light Co	14.4
							Cen & SW Public Serv Co of Oklahoma	7.8
							Cen & SW West Texas Utilities Co	29.5
							Cen & SW Southwestern Elec Power Co	48.3
Houston Lighting & Power Co								
South Texas (Matagorda)	1	1250.0	NP	Uranium	PROJ	1987		
	2	1250.0	NP	Uranium	PROJ	1989		
							Houston Lighting & Power Co	30.8
							San Antonio Public Service Bd	28.0
							Cen & Sw Central Power & Light Co	25.2
							Austin Electric Dept	16.0
South Texas Elec Coop, Inc								
San Miguel (Atascosa)	2	400.0	ST	LIG	PROJ	1993		
							Brazos Elec Pwr Coop, Inc	50.0
							South Texas Elec Coop, Inc	50.0
Cen & SW Southwestern Elec Power Co								
Pirkey (Harrison)	1	719.0	ST	LIG	PROJ	1985		
							Cen & SW Southwestern Elec Power Co	88.0
							Several Small Munis and Coops	12.0
Cen & SW West Texas Utilities Co								
Oklaunion (Wilbarger)	1	720.0	ST	Coal	PROJ	1986		
							Cen & SW West Texas Utilities Co	54.7
							Cen & SW Public Serv Co of Oklahoma	27.3
							Cen & Sw Central Power & Light Co	18.0
Utah								
Los Angeles Dept of Water and Power								
Intermountain (Millard)	1	761.0	ST	BIT	PROJ	1986		
	2	761.0	ST	BIT	PROJ	1987		
							Los Angeles Dept of Water and Power	44.6
							Intermountain Consumers Power Assn	21.1
							Anaheim, City of Public Utilities	13.2
							Riverside, City of Public Utilities	7.6
							Several Small Munis and Coops	5.1
							Pasadena, City of Wtr & Pwr Dept	4.4
							Utah Power & Light Company	4.0
Vermont								
Burlington Electric Light Dept								
J C Mcneil (Chittenden)	1	50.0	ST	Wood	EXIST	1984		

[1] For existing units, generator nameplate rating. For projected units, generator nameplate rating when available. Otherwise, proposed summer capability.

Notes: This table denotes shares of ownership only for generating units that were placed in commercial operation in 1984 and generating units that are planned for initial commercial operation, 1985-1994.
Where rating appears as 0.0, reported value is less than 50 kw.

Source: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

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Table 14. Jointly Owned Units by State, Company, and Plant—Continued

State Company Plant (County)	Unit No.	Capacity (MW)	Unit Type	Primary Energy Source	Status	Date	Owner Companies	Percent Owned
Virginia								
Virginia Electric & Power Co								
Bath County (Bath)	1	350.0	PS	Water	PROJ	1985		
	2	350.0	PS	Water	PROJ	1985		
	3	350.0	PS	Water	PROJ	1985		
	4	350.0	PS	Water	PROJ	1985		
	5	350.0	PS	Water	PROJ	1985		
	6	350.0	PS	Water	PROJ	1985		
							Virginia Electric & Power Co	79.3
							APS/Allegheny Power Systems, Inc	20.7
Wisconsin								
Wisconsin Power & Light Co								
Edgewater (Rock)	5	380.0	ST	Coal	PROJ	1985		
							Wisconsin Power & Light Co	75.0
							Wisconsin Electric Power Co	25.0

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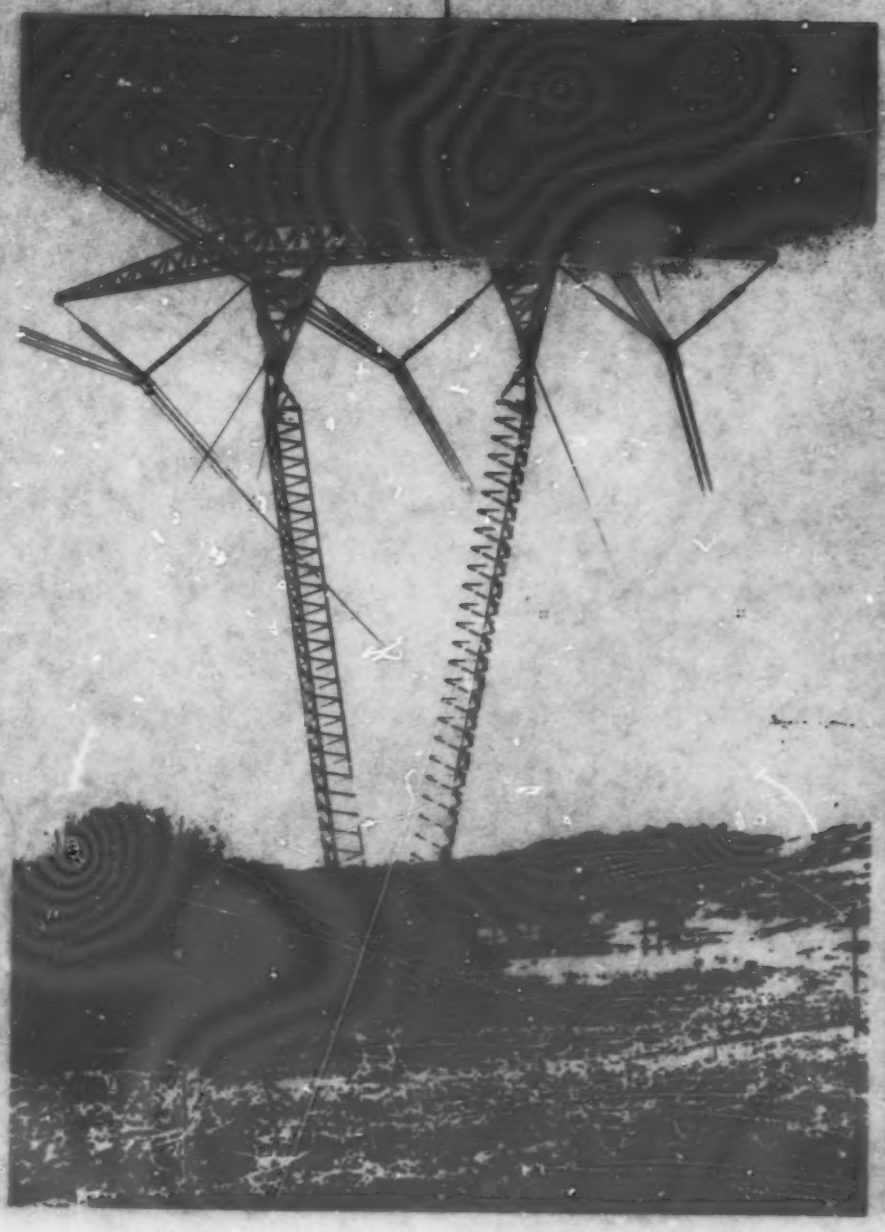

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Ampere: The unit of measurement of electrical current produced in a circuit by 1 volt acting through a resistance of 1 ohm. (See Current, Ohm, Volt.)

Anthracite: A hard, highly lustrous, jet black coal of the highest rank mined in northeast Pennsylvania. (See Coal.)

Barrel: A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. gallons.

Baseload: The minimum amount of electric power delivered or required over a given period of time at a steady state. (See Baseload Plant.)

Baseload Capacity: The generating equipment normally operated to serve loads on a round-the-clock basis. (See Baseload, Baseload Plant.)

Baseload Plant: A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs. (See Baseload.)

Biomass: Organic materials used as a source of energy. (See Other Generation.)

Bituminous Coal: Soft, dense, black coal with well-defined bands of bright and dull material. Ranking between anthracite and subbituminous coal, bituminous coal is mined chiefly in Kentucky, Pennsylvania, and West Virginia. It is the most common solid fossil fuel. (See Coal.)

Btu (British Thermal Unit): A standard unit for measuring the quantity of heat energy equal to the quantity of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit.

Capability: The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time without exceeding approved limits of temperature and stress.

Capacity: The amount of electric power delivered or required for which a generator, turbine, transformer, transmission circuit, station, or system is rated by the manufacturer. (See Installed Nameplate Capacity.)

Census Divisions: The nine geographic divisions of the United States established by the U.S. Bureau of the Census for statistical analysis. The boundaries of the Census Divisions are congruent with State boundaries. For purposes of this publication, the Pacific Division is subdivided into the Pacific Contiguous and Pacific Noncontiguous Divisions.

Coal: A black or brownish-black solid combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite. Lignite contains approximately 9 to 17 million Btu per ton. The contents of subbituminous and bituminous coal range from 16 to 24 million Btu per ton and from 19 to 30 million Btu per ton, respectively. Anthracite contains approximately 22 to 28 million Btu per ton. (See Anthracite, Bituminous Coal, Subbituminous Coal, Lignite.)

Cogeneration: The sequential or simultaneous process in which useful heat/steam is generated, used in a variety of process applications, and then directed into a turbine to generate electricity and/or mechanical work from the useful thermal energy still available for use. (See Generation, Energy.)

Coincident Peak Load: The sum of two or more peak loads that occur in the same time interval. (See Peak Load.)

Coke: In general, a product made from bituminous coal from which the volatile constituents have been driven off by heat, so that fixed carbon and ash are fused together. Coke, being largely carbon, is hard and porous, and is a desirable fuel in certain metallurgical industries.

Combined Cycle: A cogeneration technology in which additional electricity is produced sequentially from the otherwise lost waste heat exiting from one or more gas-fired turbines. The exiting heat flow is routed to an exhaust-fired conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of an electric generating system by turning the rejected heat into thermal steam rather than discharging it into the atmosphere. (See Cogeneration, Turbine.)

Combined Hydroelectric Plant: A hydroelectric plant that uses both pumped water and natural streamflow for the production of power.

Combined Pumped-Storage Plant: A pumped-storage hydroelectric power plant that uses both pumped water and natural streamflow to produce electricity.

Consumption (Fuel): The amount of fuel used for gross generation, providing standby service and start-up and/or flame stabilization. (See Fuel.)

Conventional Hydroelectric Plant: A plant in which all of the power is produced from natural streamflow as regulated by available storage.

Crude Oil (including Lease Condensate): A mixture of hydrocarbons that existed in liquid phase in underground reservoirs and that remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual oil) and other unfinished oils are excluded. Liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded where identifiable. (See Petroleum.)

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Current: A flow of electrons in an electrical conductor. The strength or rate of movement of the electricity is measured in amperes. (See Ampere, Ohm, Volt.)

Demand: The rate at which electric energy is delivered to or by a system, part of a system, or piece of equipment, at a given instant or averaged over any designated period of time.

Demand Interval: The time period during which flow of electricity is measured in order to determine demand. These time periods are usually in 15, 30, or 60 minute increments. (See Demand.)

Distillate Fuel Oil: A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on-and-off-highway diesel engine fuel (including railroad engine fuel and fuel for agriculture machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils; No. 1, No. 2, and No. 4 diesel fuels.

Electric Plant: A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric Power Industry: The public, private, and cooperative electric utility systems of the United States taken as a whole. This includes all electric systems serving the public: regulated investor-owned electric utility companies; Federal power projects; State, municipal and other government-owned systems, including electric public utility districts; electric cooperatives, including generation and transmission entities ("G and T's"); jointly owned electric utility facilities, and electric utility facilities owned by a lessor and leased to an electric utility firm. Excluded from this list are the special purpose electric facilities or systems that do not offer service to the public.

Electric Power System: An individual electric power entity-a company, an electric cooperative, a public electric supply corporation like the Tennessee Valley Authority, a similar Federal department or agency like the Bonneville Power Administration, the Bureau of Reclamation or the Corps of Engineers, a municipally owned, electric department offering service to the public, or an electric public utility district (a "PUD"); also a jointly owned electric supply project such as the Keystone.

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy, primarily for use by the public.

Energy: The capacity for doing work as measured in the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units. (See Energy Source.)

Energy Source: The primary source that provides the power that is converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, water, uranium, wind, sunlight, geothermal, and other sources.

Fahrenheit: A temperature scale on which the boiling point of water is at 212 degrees above zero on the scale and the freezing point is at 32 degrees above zero at standard atmospheric pressure.

Federal Region: In a Presidential directive issued in 1969, various Federal agencies (among them the currently designated Department of Health and Human Services, the Department of Labor, the Office of Economic Opportunity, and the Small Business Administration) were instructed to adopt a uniform field system of ten geographic regions with common boundaries and headquarter cities. The action was taken to correct the evolution of fragmented Federal field organization structures that each agency or component created independently, usually with little reference to other agencies' arrangements. Most Federal domestic agencies or their components have completed realignments and relocations to conform to the Standard Federal Administrative Regions (SFAR's) shown on the map at the end of this publication.

Forced Outage: The shutdown of a generating unit, transmission line or other facility, for emergency reasons or a condition in which the generating equipment is unavailable for load due to unanticipated breakdown. (See Outage.)

Fossil Fuel: Any naturally occurring organic fuel, such as coal, crude oil, and natural gas.

Fossil Fuel Plant: A plant using coal, petroleum, or gas as its source of energy.

Fuel: Any substance that can be burned to produce heat; also, materials that can be fissioned in a chain reaction to produce heat.

Fuel Cell: A device that produces electrical energy directly from the controlled electrochemical oxidation of the fuel. It does not contain an intermediate heat cycle, as do most other electrical generation techniques.

Gas: Includes natural gas, coke-oven gas, blast-furnace gas, and refinery gas. Manufactured gas is reported as natural gas on FERC Form 423. (See Natural Gas.)

Gas-Turbine Plant: A plant in which the prime mover is a gas turbine. A gas turbine consists typically of an axial-flow air compressor, one or more combustion chambers where liquid or gaseous fuel is burned and

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the hot gases are passed to the turbine; where the hot gases expand to drive the generator and then are used to run the compressor.

Generating Unit: An electric generator together with its prime mover.

Generation: The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced, expressed in kilowatthours (kWh). (See Electric Plant, Energy.)

Generator: A machine that converts mechanical energy into electrical energy.

Geothermal Energy: Energy from the internal heat of the earth; may be residual heat, friction heat, or a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling and/or pumping.

Geothermal Plant: A plant in which the prime mover is a steam turbine. The turbine is driven either by steam produced from hot water or by natural steam that derives its energy from heat found in rocks or fluids at various depths beneath the surface of the earth. The energy is extracted by drilling and or pumping.

Gigawatt (GW): One billion watts. (See Watt.)

Gigawatthour (GWh): One billion watthours. (See Watthour.)

Gross Generation: The total amount of electric energy produced by a generating station or stations, measured at the generator terminals. (See Generation, Electric Plant.)

Heat Rate: A measure of generating station thermal efficiency, generally expressed in Btu per net kilowatthour. It is computed by dividing the total Btu content of fuel burned for electric generation by the resulting net kilowatthour generation. (See Btu, Thermal.)

Heavy Oil: The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam plants is heavy oil.

Horsepower: A unit for measuring the rate of work (or power) equivalent to 33,000 foot-pounds per minute or 746 watts. (See Watt.)

Hydroelectric Energy: The production of electricity from kinetic energy in flowing water. (See Energy.)

Hydroelectric Plant: A plant in which the turbine generators are driven by falling water.

Hydroelectric Power: The harnessing of flowing water to produce mechanical or electrical energy. (See Hydroelectric Energy, Hydroelectric Plant.)

Installed Nameplate Capacity: The full-load continuous rating of a generator, prime mover, or other electrical equipment under specified conditions as designated by the manufacturer. It is usually indicated on a nameplate attached physically to the equipment. Installed station capacity does not include auxiliary or house units.

Instantaneous Peak Demand: The maximum demand at the instant of greatest load. (See Load (Electric), Maximum Demand.)

Internal Combustion Plant: A plant in which the prime mover is an internal combustion engine. An internal combustion engine has one or more cylinders in which the process of combustion take place, converting energy released from the rapid burning of a fuel-air mixture into mechanical energy. Diesel or gas-fired engines are the principal types used in electric plants. The plant is usually operated during periods of high demand for electricity.

Kilowatt (kW): One thousand watts. (See Watt.)

Kilowatthour (kWh): One thousand watthours. (See Watthour.)

Light Oil: Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

Lignite: A brownish-black coal of the lowest rank having approximately 13.4 million Btu per ton; it is mined in North Dakota, Montana, and Texas.

Load (Electric): The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the customers.

Maximum Demand: The greatest of all demands of the load that has occurred within a specified period of time.

Mcf: One thousand cubic feet.

Megawatt (MW): One million watts. (See Watt.)

Megawatthour (MWh): One million watthours. (See Watthour.)

MMcf: The abbreviation for one million cubic feet.

Municipality: A city, county, irrigation district, drainage district, or a political subdivision or agency of a State competent under the laws thereof to carry on the business of developing, transmitting, or distributing power.

Natural Gas: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geological formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

Net Capability: The amount of power a generating station could produce as demonstrated by test or as determined by actual operating experience less power generated and used for station uses. This ability to produce power may vary with the character of the load, time of year (due to circulating water temperatures in thermal stations or availability of water in hydroelectric power stations), and for other causes.

Net Generation: Gross generation less plant use, measured at the high-voltage terminals of the station's step-up transformer. The energy required for pumping at pumped-storage plants is regarded as plant use and must be deducted from the gross generation. (See Generation, Electric Plant.)

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Noncoincident Demand: Sum of two or more demands on individual systems that do not occur in the same demand interval. (See Demand, Demand Interval, System (Electric).)

Noncoincident Peak Load: The sum of two or more peak loads on individual systems that do not occur in the same time interval. Meaningful only when considering loads within a limited period of time, such as a day, week, month, a heating or cooling season, and usually for not more than 1 year.

North American Electric Reliability Council (NERC): A council formed in 1968 by the electric utility industry to promote the reliability and adequacy of bulk power supply in the electric utility systems of North America. NERC consists of nine regional reliability councils and encompasses essentially all the power systems of the contiguous United States and Canada. The data summarized by NERC regions in this publication are limited to that portion applicable to the contiguous United States, thereby excluding that portion of NERC data applicable to Alaska, Hawaii, and Canada. The NERC Regions are:

ECAR - East Central Area Reliability Coordination Agreement

ERCOT - Electric Reliability Council of Texas

MAIN - Mid-America Interpool Network

MAAC - Mid-Atlantic Area Council

MAPP - Mid-Continent Area Power Pool

NPCC - Northeast Power Coordinating Council

SERC - Southeastern Electric Reliability Council

SPP - Southwest Power Pool

WSCC - Western Systems Coordinating Council

Nuclear Fuel: Fissionable materials that have been enriched to such a composition that when placed in a nuclear reactor will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

Nuclear Power Plant: A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced by a heat transfer from the reactor vessel during the period when the nuclear fuel is undergoing fission.

Nuclear Reactor: A device in which a fission chain reaction can be initiated, maintained, and controlled. Its essential components are a vessel containing a core with fissionable fuel, a moderator for the fission chain reaction, and a control system.

No. 1 Fuel Oil: A light distillate fuel oil intended for use in vaporizing pot-type burners. ASTM Specification D396 specifies for this grade maximum distillation temperatures of 400 degrees F. at the 10-percent point and 550 degrees F. at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100 degrees F.

No. 2 Fuel Oil: A distillate fuel oil for use in atomizing type burners for domestic heating or for moderate capacity commercial-industrial burner units. ASTM Specification D396 specifies for this grade distillation temperatures at the 90-percent point between 540 degrees and 640 degrees F., and kinematic viscosities between 2.0 and 3.6 centistokes at 100 degrees F.

No. 1 and No. 2 Diesel Fuel Oils: Distillate fuel oils used in compression-ignition engines, as given by ASTM Specification D975:

No. 1-D - A volatile distillate fuel oil with a boiling range between 300-575 degrees F. and used in high-speed diesel engines generally operated under wide variations in speed and load. Includes type C-B diesel fuel used for city buses and similar operations. Properties are defined in ASTM Specifications D975.

No. 2-D - A gas-oil type of distillate of lower volatility with distillation temperatures at the 90-percent point between 540-640 degrees F. for use in high-speed diesel engines generally operated under uniform speed and load conditions. Includes Type R-R diesel fuel used for railroad locomotive engines, and T-T for diesel-engine trucks. Properties are defined in ASTM Specification D975.

No. 4 Fuel Oil: A fuel oil for commercial burner installations not equipped with preheating facilities; used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conform to ASTM Specification D396 or Federal Specification VV-F-815C; its kinematic viscosity is between 5.8 and 26.4 centistokes at 100 degrees F. Also included is No. 4-D, a fuel oil for low- and medium-speed diesel engines that conforms to ASTM Specification D975.

Ohm: The unit of measurement of electrical resistance. The resistance of a circuit in which a potential difference of 1 volt produces a current of 1 ampere. (See Ampere, Current, Volt.)

Oil: A mixture of hydrocarbons usually existing in the liquid state in natural underground pools or reservoirs. Gas is often found in association with oil. (See Crude Oil, Petroleum.)

Other Gas: Includes manufactured gas, coke-oven gas, blast-furnace gas, and refinery gas. Manufactured gas is obtained by distillation of coal, by the thermal decomposition of oil, or by the reaction of steam passing through a bed of heated coal or coke. (See Natural Gas)

Other Generation: Electricity originating from these sources: biomass; fuel cells; geothermal heat; solar power; waste; wind; and wood.

Outage: The period during which a generating unit, transmission line, or other facilities is out of service. (See Forced Outage, Scheduled Outage.)

Peak Load: The maximum load during a specified period of time.

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Peak Load Plant: A plant usually housing old, low-efficiency steam units, gas turbines, diesels, or pumped-storage hydroelectric equipment normally used during the peak load periods.

Peaking Capacity: Capacity of generating equipment normally operated during the hours of highest daily, weekly, or seasonal loads. Some generating equipment may be operated at certain times as peaking capacity and at other times to serve loads on a round-the-clock basis. (See Peak Load.)

Petroleum: A mixture of hydrocarbons existing in the liquid state found in natural underground reservoirs, often associated with gas. (See Petroleum (Crude Oil))

Petroleum Coke: A residue, high in carbon content and low in hydrogen, that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion factor is 5 barrels of 42 U.S. gallons each per short ton.

Petroleum (Crude Oil): A naturally occurring, oily, flammable liquid composed principally of hydrocarbons. Crude oil is occasionally found in springs or pools but usually drilled from wells beneath the earth's surface.

Photovoltaic Cell: Device that produces electrical current by converting light or similar radiation. (See Other Generation.)

Plant: A station at which are located prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or nuclear energy into electric energy. A station may contain more than one type of prime mover. The plant must be under the jurisdiction of a single State and should include any storage areas where the majority of fuel is dedicated to a station.

Plant Factor: The ratio of the average load on the plant for the period of time considered to the aggregate capacity of all the generating equipment installed in the plant.

Plant Use: The electric energy used in the operation of a plant. Included in this definition is the energy required for pumping at pump-storage plants.

Plant-Use Electricity: The electric energy used in the operation of a plant. This energy total is subtracted from the gross energy production of the plant; for reporting purposes the plant energy production is then reported as a net figure. The energy required for pumping at pumped-storage plants is by definition subtracted, and the energy production for these plants is then reported as a net figure. (See Combined Pumped-Storage Plant, Pumped-Storage Hydroelectric Plant, Pure Pumped-Storage Hydroelectric Plant.)

Prime Mover: The engine, turbine, water wheel, or similar machine that drives an electric generator.

Privately Owned Electric Utility: A class of ownership found in the electric power industry where the utility is regulated and authorized to achieve an allowed rate of return. (See Electric Power Industry, Rate Base.)

Production (Electric): Act or process of producing electric energy from other forms of energy; also, the amount of electric energy expressed in watthours (Wh).

Publicly Owned Electric Utility: A class of ownership found in the electric power industry. This group includes those utilities operated by municipalities, and State and Federal power agencies.

Pumped-Storage Hydroelectric Plant: A plant that usually generates electric energy during peak-load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

Pure Pumped-Storage Hydroelectric Plant: A plant that produces power only from water that has previously been pumped to an upper reservoir.

Residual Fuel Oil: The topped crude of refinery operation; includes No. 5 and No.6 fuel oils as defined in ASTM Specification D396 and Federal Specification VV-F-815C, Navy Special fuel oil as defined in Military Specification MIL-F-859E including Amendment 2 (NATO Symbol F-77), and Bunker C fuel oil. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes. Imports of residual fuel oil include "Imported Crude Oil Burned as Fuel".

Run-of-River Hydroelectric Plant: A low-head plant using the flow of a stream as it occurs, and having little or no reservoir capacity for storage. (See Hydroelectric Power.)

Running and Quick-Start Capability: The net capability of generating units that carry load or have quick-start capability. In general, quick-start capability refers to generating units that can be available for load within a 30-minute period. (See Capability, Load (Electric), Net Capability.)

Scheduled Outage: The shutdown of a generating unit, transmission line, or other facility, for inspection or maintenance, in accordance with an advance schedule. (See Forced Outage, Outage.)

Short Ton: A unit of weight equal to 2,000 pounds.

Solar Energy: Energy produced from the sun's radiation. In a solar system, sunlight is focused directly onto a centrally mounted tower from mirrors that track the sun. The concentrated heat then can be used to produce electricity by means of a heat transfer system.

Standby Facility: A facility that supports a utility system and is generally running under no-load. It is available to replace or supplement a facility normally in service. (See Standby Service, Outage.)

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Glossary

Standby Service: Support service that is available as needed to supplement a customer, a utility system, or to another utility if a schedule or an agreement authorizes the transaction. The service is not regularly used. (See Standby Facility, Outage.)

Station (Electric): A plant containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or nuclear energy into electric energy.

Stocks (Fuel): A supply of fuel accumulated for future use. This includes coal and fuel oil stocks at the plant site, in coal cars, tanks, or barges at the plant site, or at separate storage sites.

Storage Hydroelectric Plant: A hydroelectric plant with reservoir storage capacity for power use.

Subbituminous Coal: A dull, black solid fossil fuel ranking between lignite and bituminous coal mined chiefly in Montana and Wyoming. (See Coal.)

System (Electric): Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management, or operating supervision.

Thermal: A term used to identify a type of electric generating station, capacity, capability, or output in which the source of energy for the prime mover is heat.

Turbine: A machine for generating rotary mechanical power from the energy in a stream of fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Uranium: A heavy, naturally radioactive, metallic element with atomic number 92. The two isotopes that occur most frequently are Uranium-235 and Uranium-238. Uranium-235 is the only isotope existing in nature in any appreciable extent that is fissionable by thermal neutrons. Uranium is the basic raw material of nuclear energy. (See Nuclear Fuel.)

Volt: The unit of measurement of electrical force or pressure. The electrical force that, if steadily applied to a circuit with a resistance of 1 ohm, will produce a current of 1 ampere. (See Ampere, Current, Ohm.)

Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor. (See Ampere, Current, Power, Volt.)

Watthour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

Wind Energy: Energy produced by harnessing the force of the wind. In a wind energy conversion system such as a windmill, the energy of wind is used to turn the shaft of a generator, which in turn usually produces direct current. This direct current is usually converted to alternating current before being fed into a utility grid system.

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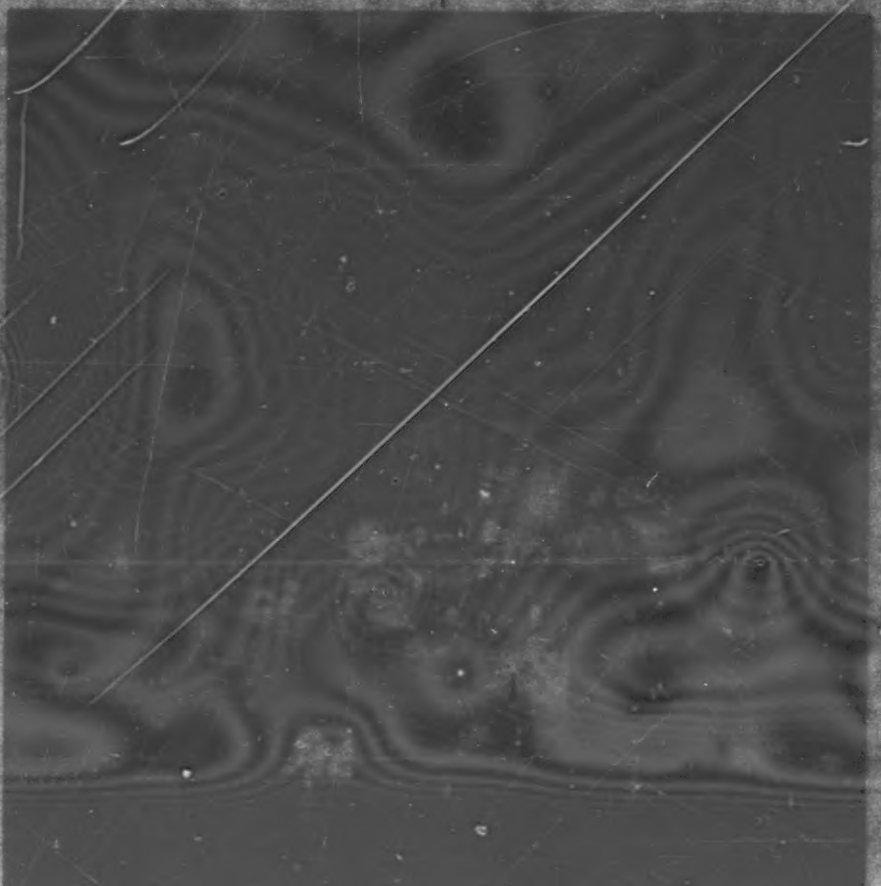

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Technical Notes

1. Sources of Data

The Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF) is responsible for routine data improvement and quality assurance activities. All operations of CNEAF are done in accordance with formal standards established by the Energy Information Administration (EIA). These standards are the measuring rod necessary for quality statistics. Data improvement efforts include verification of data-keyed input by automatic computerized methods, editing by subject matter specialists, and follow-up on nonrespondents. Generally, completed forms received by the CNEAF are sorted, screened for completeness of reported information, and keyed onto computer tapes for storage and transfer to data bases on random access storage devices for computer processing. The information coded on the computer tapes is spot-checked against the forms by hand to certify accuracy of the tapes. To insure the quality standards established by EIA, the office has designed and implemented algorithms using the past history of data values in the data base to check data input for errors. This automatically reduces the possibility of erroneous entries in the data bases over time as the historical data become more refined. Data values rejected by the algorithms are checked with respondents by telephone to correct the problems. Computerized data files of respondents are checked to identify those who fail to respond to the survey. By law, nonrespondents may be fined or otherwise penalized for not filing an EIA data form as prescribed in the instructions. Before invoking the law, the EIA tries to obtain the required information by encouraging cooperation of nonrespondents. The CNEAF office supports the quality assurance efforts of the data collectors by providing advisory reviews of information requirements, and of proposed designs for new and revised data collection forms and systems. The actual performance of working data collection systems is validated, once they are implemented. A synopsis of the data collection systems used to prepare **Inventory of Power Plants in the United States 1984** is presented below.

1.1 Form EIA-759 - Monthly Power Plant Report

Summary Statement of the Form EIA-759 Primary Purpose

The Form EIA-759, Monthly Power Plant Report, collects monthly data on net generation, consumption of coal, petroleum, and natural gas, and end-of-the-month stocks of coal and petroleum for each plant by prime mover by fuel type combination from all electric generating utilities.

Instrument and Design History

The Bureau of the Census collected and published the results of each 5-year census from 1902 to 1937 on the electric light and power industries and some data on industrial production of electric energy. From 1920-1936, the Geological Survey collected, compiled, and published data on capacity and generation of electric utilities. The Federal Power Act, Sections 311 and 312, and FPC Order 141 define the legislative authority to collect power production data. In 1936, this activity was turned over to the Federal Power Commission (FPC), which implemented the Form 4 system. In October 1977, processing of data reported on this form became the responsibility of the Energy Information Administration when the FPC was merged into the Department of Energy. In January 1982, FPC Form 4 was superseded by Form EIA-759.

Data Processing

Data are collected and processed by the staff of the Data Systems Branch. Approximately 4 working days before the end of the month, the preprinted forms are mailed along with a return envelope. The completed forms are to be returned by the 10th of the month following the reporting month. The staff manually edits and compares the completed forms with the mailing list, checking for changes of address. Respondents are telephoned for correction or clarification of any apparently unusual data. When 100 percent of total U.S. installed nameplate capacity is represented by the reported data, tables, and text are generated for the various publications. Following EIA approval of the **Electric Power Monthly**(5) publication, the data are made available for public use either in computer listings requested by individuals, data tapes, or in the publications themselves on a cost-recovery basis.

Presentation

Time series analysis of the plant data have been used in data base quality assurance. This analysis classifies the plants for a computerized data editing algorithm. This algorithm, discussed in "Imputation, Revision and Seasonal Adjustment" and "Editing Very Large Data Bases"(3,6), is used to locate errors in the data.

Data from the Form EIA-759 are summarized in the publications **Electric Power Monthly**(5), **Electric Power Quarterly**(7), **Electric Power Annual**(4), **Annual Energy Review**(2), and **Monthly Energy Review**(8). These reports present aggregate totals for electric utilities in the United States and within the North American Electric Reliability Council Regions, and Census Divisions.

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Information Collected

The data items supplied each month by respondents are:

Monthly net generation by prime mover: hydroelectric, steam, internal combustion, gas turbine, combined cycle (steam), combined cycle (gas turbine), and wind.

Monthly net generation by energy source: water, wood waste, nuclear, light oil (first collected in 1980), heavy oil (1980), anthracite, petroleum coke, bituminous, lignite, fuel petroleum (prior to 1980), natural gas.

In addition, electric utilities operating fossil-fueled plants must report:

Monthly fuel consumption: light oil (1980), heavy oil (1980), fuel oil (prior to 1980), anthracite, petroleum coke, bituminous, lignite, natural gas.

End-of-month on-site fuel stocks: light oil (1980), heavy oil (1980), fuel oil (prior to 1980), anthracite, petroleum coke, bituminous, lignite.

1.2 Form EIA-860 - Annual Electric Generator Report

Summary Statement of the Form EIA-860 Primary Purpose

The Energy Information Administration (EIA) provides for the annual collection of data on electric utilities' existing power plants and their ten-year plans for constructing new plants, and generating unit additions, modifications, and retirements in existing plants. Data on Form EIA-860 are collected from all electric utilities in the United States and Puerto Rico that operate power plants or plan to operate a power plant within 10 years of the reporting year.

Instrument and Design History

The Form EIA-860 was implemented in January 1985 to collect data as of year-end 1984. The Federal Energy Administration Act of 1974 (P. L. 93-275) defines the legislative authority to collect these data. Much of the data collected on Form EIA-860 were previously collected on either FERC Form 12, "Annual Power System Statement," or Form EIA-119A, "Annual Projection of System Changes." The FERC Form 12 was last used to collect data as of year-end 1981. The Form EIA-119A was last used to collect data now collected on Form EIA-860 as of year-end 1981.

Data Processing

Data on Form EIA-860 are submitted through mail by 943 respondents. The forms are mailed to the respondents in January to collect data as of the end of the preceding calendar year. The completed forms are due at the Department of Energy March 31. Data for each respondent are preprinted from the data base. Respondents are instructed to verify all preprinted data and to supply missing data.

Processing of the data on Form EIA-860 is the responsibility of the Electric Power Division's Data Systems Branch of the Office of Coal, Nuclear, Electric and Alternate Fuels. The system used to process data reported on Form EIA-860 was designed by this office. The data are manually edited before being reduced for automatic data processing. Computer programs containing additional edit checks are run. Respondents are telephoned to obtain correction or clarification of reported data and to obtain missing data, as a result of the manual and automatic editing process.

Presentation

Data from Form EIA-860 are summarized in the **Inventory of Power Plants in the United States**. This report presents aggregate totals for electric utilities in the United States and within the North American Electric Reliability Council Regions, Census Divisions, and States. The data are also used as input to publications and studies by other offices in the Department of Energy.

Information Collected

The five schedules contained in Form EIA-860 and a summary of the data elements reported on each are as follows.

Schedule I - Identification and Certification

Respondent's mailing address; name and telephone number of contact person; name and title of certifying official;

Schedule II - Power Plant Site Information

For each existing power plant and those planned for initial commercial operation within 10 years, the following are specified: plant name; county location; state location; elevation; name of cooling water source or source of water for hydroelectric power; type of cooling;

Specifically, for each hydroelectric power plant or those hydroelectric power plants scheduled for initial commercial operation within 10 years, the following are specified: hydroelectric project name; area of pools; drainage area; for normal full upper pool - maximum drawdown, usable storage, elevation; gross head; design head; kind of plant;

Schedule III - Generator Information

For each existing generator (active and inactive), the following are specified: plant name; generator identification; prime mover; nameplate rating; service type; date of initial commercial operation; start-up fuels; heat rate; summer capability; winter capability.

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For each generator scheduled for initial commercial operation within 10 years, the following are specified: plant name, generator identification, prime mover, nameplate rating, dates scheduled for initial commercial operation, reasons for delays, proposed energy sources, and proposed summer and winter ratings.

Previously reported proposed generators that have been canceled during the reporting year are reported, along with date of cancellation, and reasons for cancellation.

Proposed generators that have been indefinitely postponed are reported, along with the date the decision was made to postpone, and the reasons for postponement.

Generators that have been retired during the reporting year are reported and their date of retirement is given.

Information is also reported for existing generators that, within the next 10 years, will be retired, will convert to another energy source, or will be modified to change summer or winter capability by 10 megawatts or more.

Schedule IV - Ownership of Generators Jointly Owned or by Others

For existing and planned generators that are or will be jointly owned, or for any generator that the respondent operates, but is 100 percent owned by another company, the following are reported: plant name, generator identification, prime mover, each owner's name and percent ownership.

Schedule V - Coal-fired Steam Generators: Planning, Engineering, and Construction Milestones

For each coal-fired generator expected to start commercial operation within 10 years, various planned and actual milestone dates are reported.

2. Quality of Data

2.1 Updating and Editing of Data

The data presented in **Inventory of Power Plants in the United States 1984** was submitted on Form EIA-860 and reflects electric utilities' data as of December 31, 1984. The information presented reflects updates caused by the construction or modification of power plants during the reporting year or the correction of previously reported data. The installed nameplate capacity, ownership information, and plant status are updated monthly by comparison with the Form EIA-759 data base. All other updates are done on an annual basis before the file is closed.

Automated systems used to edit data include both deterministic checks, in which records are checked for the presence of data in required fields, and statistical checks, in which the data are checked against a range of values based on historical data values and for logical or mathematical consistency with data elements reported in the source documents.

2.2. Data Correction Procedure

Office of Coal, Nuclear, Electric and Alternate Fuels Revision and Correction Policy

The Office of Coal, Nuclear, Electric and Alternate Fuels has adopted the following policy with respect to the revision and correction of data published in energy data reports and made available in a machine format:

1. All data collected by this office (excluding secondary source data) will be published as preliminary data when first appearing in an energy data report.

2. The next publication of the data will be in final form when the data base is closed.

3. Revisions or corrections will be made only in the event a substantial (greater than 1 percent) reporting change is received or a substantial (greater than 1 percent) error is discovered.

4. Revisions or corrections to published secondary source data will be made if and when the organization from whom the data were received revises or corrects the data.

5. No revisions will be made without the approval of the Director, Office of Coal, Nuclear, Electric and Alternate Fuels.

3. Confidentiality of the Data

The data collected on the forms used for input to this report are not confidential.

4. Obtaining Copies of Data

Upon EIA approval of the **Inventory of Power Plants in the United States**, the data become available for public use in listings for $25.00. Listings are obtained by submitting a written request with a check for $25.00, payable to the U.S. Treasury, at the following address:

U.S. Department of Energy
Energy Information Administration
NEIC, EI-22
Forrestal Building
Washington, D.C. 20585

These data are also available on computer tapes. Tapes may be purchased by using Visa, MasterCard, or American Express Cards as well as money orders or checks payable to the National Technical Information Service

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(NTIS). Purchasers may also use NTIS and GPO depository accounts. Single issues on tape sell for $140 each, while standing orders for a title sell for $120 per tape, on a subscription basis. To place an order, contact:

National Energy Information Center, EI-22
Energy Information Administration
Forrestal Building
Room 1F-048
Washington, D.C. 20585
(202)252-8800

5. Explanatory Notes

In all formulas, the symbol O is used to represent existing capacity/capability, total number of existing units, projected capacity/capability, and total number of projected units.

U.S. Aggregates

Total O = SUM(O), where SUM is an operator meaning summation.

Total O by Fuel Type (P) = SUM(O (F)), where F is coal, petroleum, gas, water, nuclear, or other, and SUM is an operator meaning summation.

Region and State Aggregates

Total O (R) = SUM(O (R)), where R is a NERC region, Federal Region, Census Region, or State, and SUM is an operator meaning summation.

Total O by Fuel Type (RF) = SUM(O (RF)), where RF is the O for region or State R and Fuel Type F. F is coal, petroleum, gas, water, nuclear, or other, and SUM is an operator meaning summation.

Table 15. Definitions of Energy Source Codes

Energy Source Code	Definition
WH	Waste Heat
COAL	Coal (general)
BIT	Bituminous Coal
SUB	Subbituminous Coal
ANT	Anthracite Coal
LIG	Lignite
PC	Petroleum Coke
MTH	Methanol
GAS	Gas (general)
NG	Natural Gas
LNG	Liquified Natural Gas
RG	Refinery Gas
BFG	Blast-Furnace Gas
COG	Coke-Oven Gas
SNG	Synthetic Natural Gas
LPG	Liquid Propane Gas
GST	Geothermal Steam
MUL	Multifueled
REF	Refuse (solid waste)
OIL	Oil (general)
FO1	No. 1 Fuel Oil
FO2	No. 2 Fuel Oil
FO4	No. 4 Fuel Oil
FO5	No. 5 Fuel Oil
FO6	No. 6 Fuel Oil
CRU	Crude Oil
TOP	Top Crude Oil
JF	Jet Fuel
KER	Kerosene
COM	Coal-Oil Mixture
CWM	Coal-Water Mixture
RRO	Re-refined Motor Oil
UR	Uranium
PL	Plutonium
WOD	Wood or Wood Waste
SUN	Sun
WND	Wind
WAT	Water
STM	Steam

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Table 16. Definitions of Energy Source Codes in Summary Chapter

Definition	Energy Source Codes
Nuclear	UR, PL
Water	WAT
Petroleum	RFO, FO1, FO2, FO4, FO5,FO6, CRU, JF, KER, TOP,OIL, PC
Coal	COAL, BIT, SUB, ANT, LIG
Gas	LNG, GAS, NG, SNG, RG, BFG,COG, LPG
Other	All other energy sources not specified above

Table 17. Definitions of Unit Type Codes

Unit Type Code	Definition
ST	Steam Turbine (boiler)
GE	Steam Turbine (geothermal)
IC	Internal Combustion (diesel)
GT	Combustion Turbine (gas turbine)
HY	Conventional Hydroelectric
PS	Pumped Storage Hydroelectric
PH	Pipeline Hydroelectric
NB	Nuclear (boiling water reactor)
NL	Nuclear (light water breeder reactor)
NP	Nuclear (pressurized water reactor)
NH	Nuclear (high temperature gas-cooled reactor)
FC	Fuel Cell
JE	Jet Engine
CT	Combined-Cycle Turbine Part
CA	Combined Cycle Reheat Part with Auxiliary Heating Capability
CW	Combined-Cycle Reheat Part with Only Waste Heat Capability
SO	Solar
WM	Windmill

6. Definitions of Terms in Table Headings

Date

(Jointly Owned Chapter) - For existing units, year unit commenced commercial operation; for planned units, year scheduled to commence commercial operation.

Existing Capacity/Existing Units

(Summary Chapter) - Capacity/Units that are in commercial service, including those that are on standby and those that are out of service for an indefinite period of time.

In Service Date

The date the unit commenced commercial operation.

Nameplate Rating

The rating assigned by the generator manufacturer and appearing on the unit nameplate.

Planned Additions/Additional Units

(Summary Chapter) - Capacity/Units scheduled for commercial service within 10 years of the reporting period of the publication, unless otherwise specified.

Scheduled Completion

Current/Original: For projected units, the estimated date the unit is to go into commercial service, both the current and the original.

Status

Existing: Units in commercial service as of the end of the reporting period for this publication.

Projected: Units proposed to start commercial service, within 10 years of the reporting period of this publication.

Planned (P): Projected for commercial operation within 10 years of the reporting period, but not yet under construction.

Under Construction (U): Projected for commercial operation within 10 years of the reporting period; ground breaking or site preparation has begun.

Testing (T): Projected for commercial operation within 10 years of the reporting period; unit is installed, synchronized to system, operating under test, but not yet in commercial service.

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Table 18. State, Federal Region, NERC Region, and Census Division Cross Reference

State	Federal Region	NERC Region	Census Division
Alabama	4	SERC	East South Central
Alaska	10	ASCC	Pacific
Arizona	9	WSCC	Mountain
Arkansas	6	SWPP	West South Central
California	9	WSCC	Pacific
Colorado	8	WSCC	Mountain
Connecticut	1	NPCC	New England
Delaware	3	MAAC	South Atlantic
Dist. of Col.	3	MAAC	South Atlantic
Florida	4	SERC	South Atlantic
Georgia	4	SERC	South Atlantic
Hawaii	9	HICC	Pacific
Idaho	10	WSCC	Mountain
Illinois	5	MAIN	East North Central
Indiana	5	ECAR	East North Central
Iowa	7	MAPP	West North Central
Kansas	7	SWPP	West North Central
Kentucky	4	ECAR, SERC	East South Central
Louisiana	6	SWPP	West South Central
Maine	1	NPCC	New England
Maryland	3	MAAC, ECAR	South Atlantic
Massachusetts	1	NPCC	New England
Michigan	5	ECAR, MAIN	East North Central
Minnesota	5	MAPP	West North Central
Mississippi	4	SERC, SWPP	East South Central
Missouri	7	MAIN, SWPP	West North Central
Montana	8	WSCC, MAPP	Mountain
Nebraska	7	MAPP, WSCC	West North Central
Nevada	9	WSCC	Mountain
New Hampshire	1	NPCC	New England
New Jersey	2	MAAC	Middle Atlantic
New Mexico	6	WSCC, SWPP	Mountain
New York	2	NPCC	Middle Atlantic
North Carolina	4	SERC	South Atlantic
North Dakota	8	MAPP	West North Central
Ohio	5	ECAR	East North Central
Oklahoma	6	SWPP	West South Central
Oregon	10	WSCC	Pacific
Pennsylvania	3	MAAC, ECAR	Middle Atlantic
Puerto Rico[1]	2		
Rhode Island	1	NPCC	New England
South Carolina	4	SERC	South Atlantic
South Dakota	8	MAPP, WSCC	West North Central
Tennessee	4	SERC	East South Central
Texas	6	ERCOT, SWPP, WSCC	West South Central
Utah	8	WSCC	Mountain
Vermont	1	NPCC	New England
Virginia	3	SERC, ECAR	South Atlantic
Washington	10	WSCC	Pacific
West Virginia	3	ECAR	South Atlantic
Wisconsin	5	MAIN, MAPP	East North Central
Wyoming	8	WSCC	Mountain

[1] Treated as a State in this publication.

7. Rounding Rules for Data

Given an n digit number with r digits to the left of the decimal and d+t digits in the fraction part, with d being the place to which the number is to be rounded and t being the remaining digits which will be truncated, this number is rounded to r+d digits by adding 5 to the (r+d+1)th digit when the number is positive or by subtracting 5 when the number is negative. The t digits are then truncated at the (r+d+1)th digit. The symbol for a rounded number truncated to zero is (*).

8. Use of the Glossary

The terms in the Glossary have been defined for general use. Restrictions on the definitions as used in these data collection systems are included in each definition when necessary to define the terms as they are used in this report.

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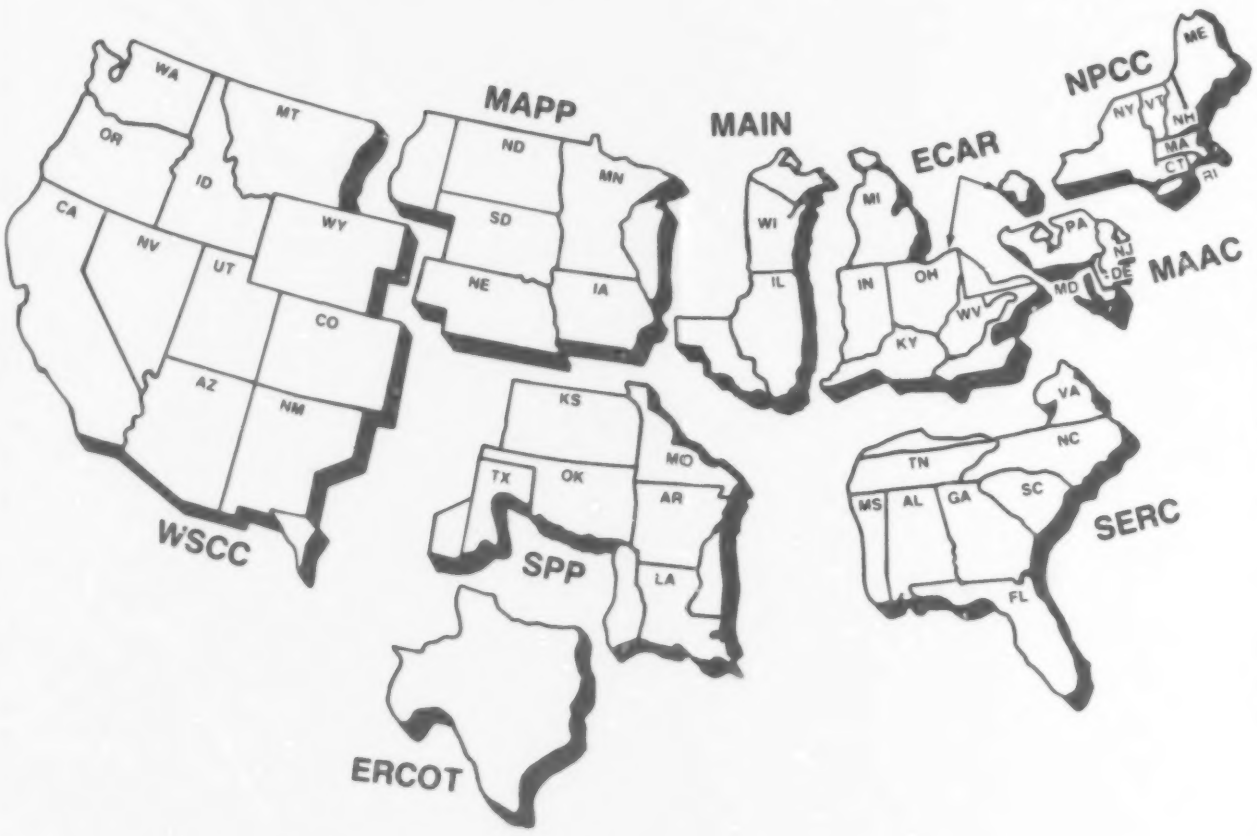
9. North American Electric Reliability Council Region Map



Regional Electric Reliability Council Areas

ECAR—East Central Area Reliability Coordination Agreement
MAIN—Mid-American Interpool Network
MAAC—Mid-Atlantic Area Council
MAPP—Mid-Continent Area Power Pool
NPCC—Northeast Power Coordinating Council
SERC—Southeastern Electric Reliability Council
SPP—Southwest Power Pool
ERCOT—Electric Reliability Council of Texas
WSCC—Western Systems Coordinating Council

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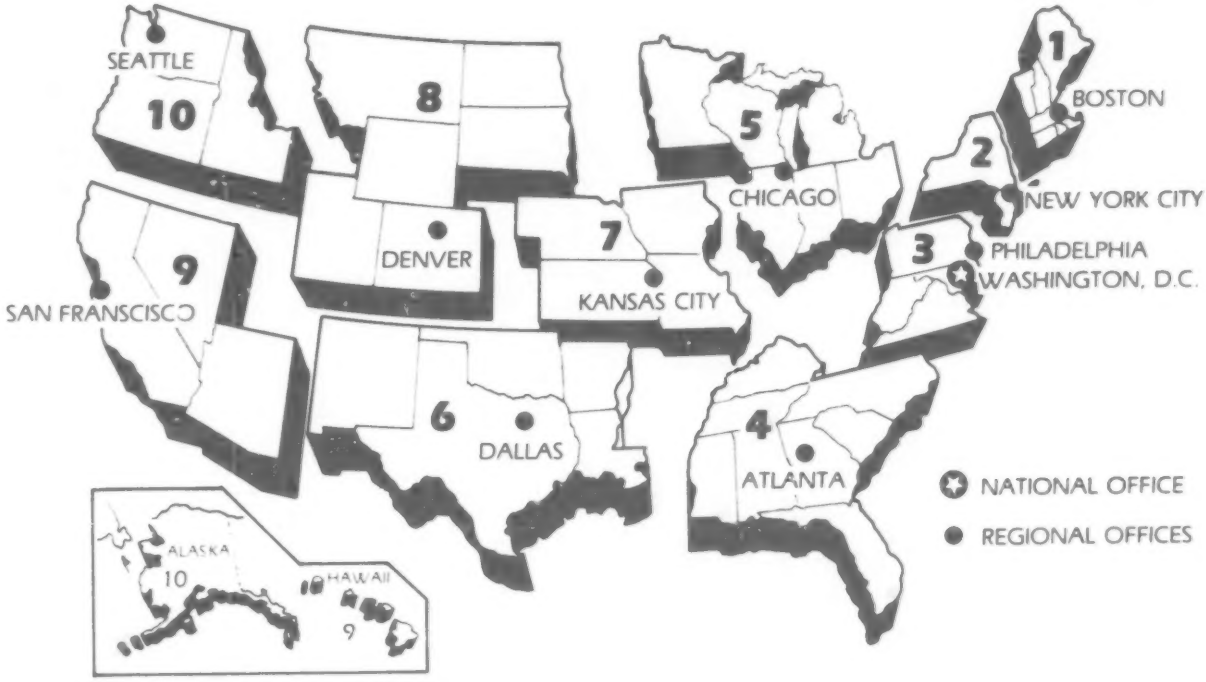
10. United States Federal Region Map



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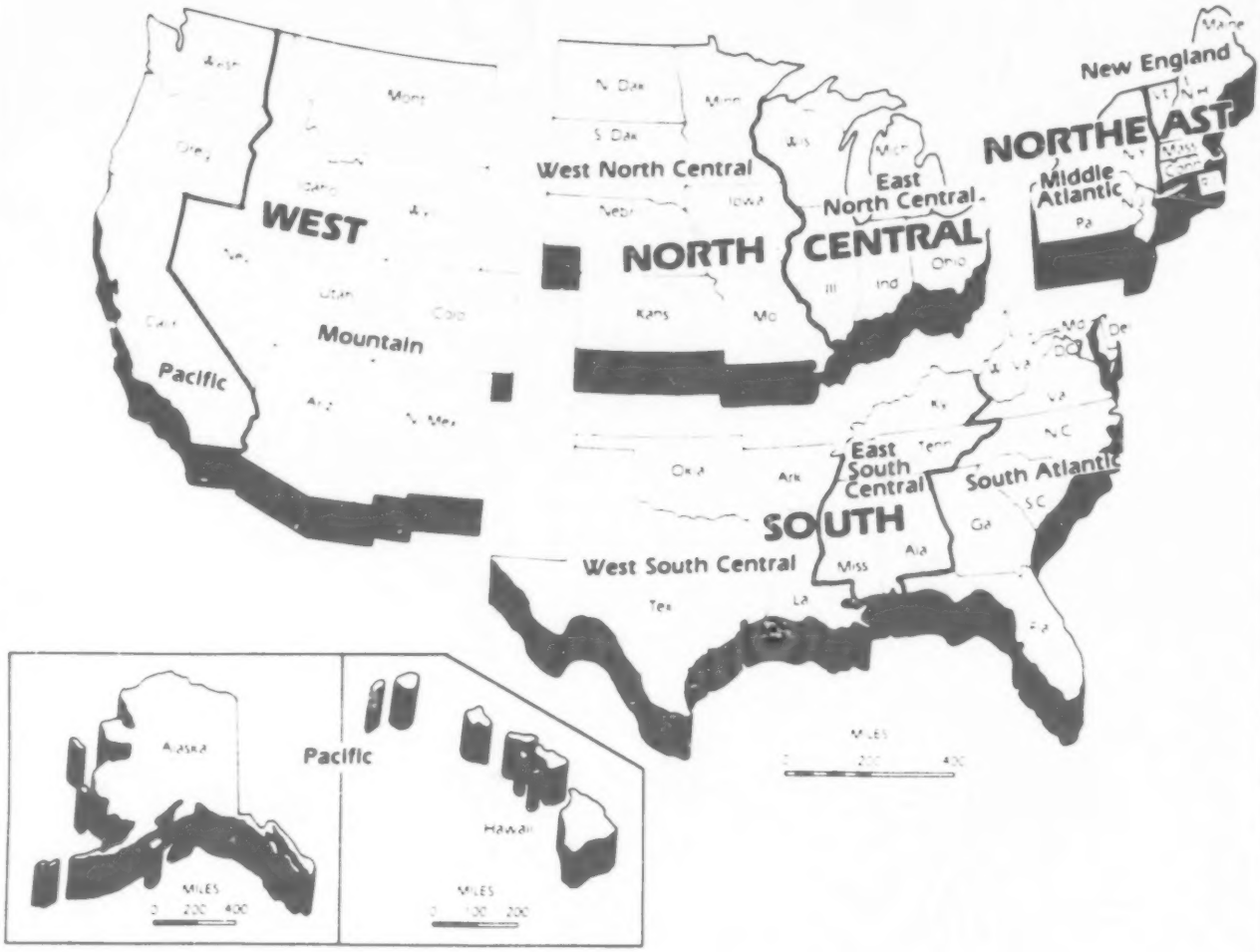
11. United States Census Region Map



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